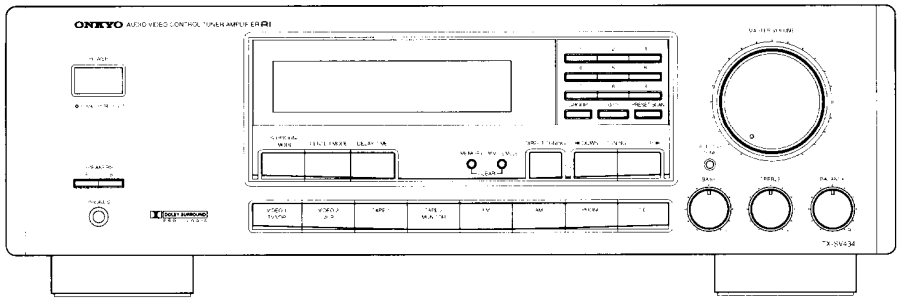
ONKYO

TX-SV434

Audio Video Control Tuner Amplifier

Instruction Manual



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Thank you for purchasing of the Onkyo A/V Tuner Amplifier.
Please read this manual thoroughly before making connections and turning on the power.
Following the instructions in this manual will enable you to obtain optimum performance and listening enjoyment from your new A/V Tuner Amplifier.
Please retain this manual for future reference.

Features

- **65 Watts per channel into 8 ohms or 55 watts to front three channels plus 20 watts per channel for surround**
- **Dolby* Pro Logic and Hall surround**
- **Discrete output stage circuitry for all channels to accurately drive the most demanding low-impedance speakers**
- **All channel (Front Lch, Rch, Center and Rear Lch, Rch) Pre-Out and dedicated line-level subwoofer output**
- **Intelligent Power Management (IPM) turn on whole system with TV**
- **RI (Remote Interactive) remote control**
- **6 Audio and 2 Video Inputs**

* Manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby", the double-D symbol ⧈, and "Pro Logic" are trademarks of Dolby Laboratories Licensing Corporation.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

FOR U.S.A. MODEL

Note to CATV system installer:

- This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

FOR CANADIAN MODEL
POUR LE MODELE CANADIEN

- For models having a power cord with a polarized plug.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

- Sur les modèles dont la fiche est polarisée.

ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

ATTENTION FOR BRITISH MODEL

- Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.
- IMPORTANT: The wires in the mains lead are coloured in accordance with the following code:
  Blue : Neutral
  Brown : Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

FOR EUROPEAN MODEL

Declaration of Conformity

We, ONKYO EUROPE
ELECTRONICS GMBH
INDUSTRIESTRASSE 18/20
82110 GERMERING,
GERMANY

CE

declare in own responsibility, that the ONKYO product described in this instruction manual is in compliance with the corresponding technical standards such as EN55013, EN55020, EN60555-2, -3 and EN60065

GERMERING,GERMANY

H. YAMAZOE
ONKYO EUROPE ELECTRONICS GMBH

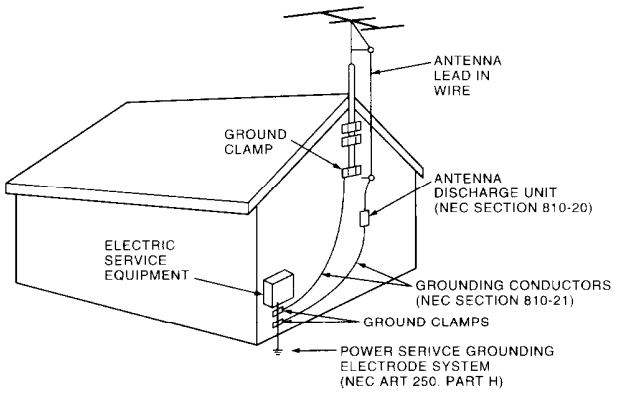
Important Safeguards

1. **Read Instructions** – All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** – All operating and use instructions should be followed.
5. **Water and Moisture** – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. **Carts and Stands** – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. **Wall or Ceiling Mounting** – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or if placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings, there should be at least 20 cm (8 in.) of free space behind the appliance.
9. **Heat** – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power Sources** – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Polarization** – If the appliance is provided with a polarized plug having one blade wider than the other, please read the following information:
    The polarization of the plug is a safety feature. The polarized plug will only fit the outlet one way. If the plug does not fit fully into the outlet, try reversing it. If there is still trouble, the user should seek the services of a qualified electrician. Under no circumstances should the user attempt to defeat the polarization of the plug.
12. **Power-Cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, especially near plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Cleaning** – The appliance should be cleaned only as recommended by the manufacturer.
14. **Power Lines** – An outdoor antenna should be located away from power lines.
15. **Nonuse Periods** – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
16. **Object and Liquid Entry** – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
17. **Damage Requiring Service** – The appliance should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.
18. **Servicing** – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
19. **Outdoor Antenna Grounding** – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.

FIGURE 1:
EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERIVCE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC – NATIONAL ELECTRICAL CODE
S2898A

Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.

The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

Precautions

1. Warranty Card
The serial number is written on the rear panel of this unit. Copy the serial number and model number onto your warranty card and keep it in a safe place.

2. Recording Copyright
Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

3. AC Fuse
The fuse is located inside the chassis and is not user-serviceable. If power does not come on, contact your Onkyo authorized service station.

4. Care
From time to time you should wipe the front and rear panels and the cabinet with a soft cloth. For heavier dirt, dampen a soft cloth in a weak solution of mild detergent and water, wring it out dry, and wipe off the dirt. Following this, dry immediately with a clean cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since these could damage the finish or remove the panel lettering.

5. Power
WARNING
BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.

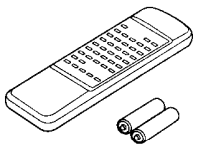
- Some models are designed for use only with the power supply voltage of the region where they are sold.

European and Australian models:	AC 230V, 50Hz
U.S.A. and Canadian models:	AC 120V, 60Hz
Worldwide model:	AC 220-230V/120V switchable, 50/60Hz

- **Voltage Selector (Rear Panel)**
  Worldwide models are equipped with a voltage selector to conform to local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit. Models without a voltage selector can only be used in areas where the power supply is the same as that of the unit.

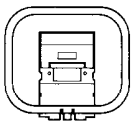
Turning off the power switch does not shut off the power completely. So the power cord should be removed from AC outlet when not in use for a prolonged time.

Supplied accessories

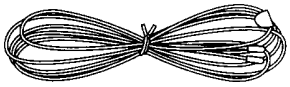


1 Remote control (RC-295S)
2 Batteries (size AA, R6, or UM-3)

1 Remote control cable

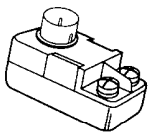


1 AM loop antenna

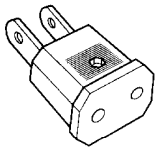


1 T-shaped FM antenna

The following accessories are only available for worldwide models.

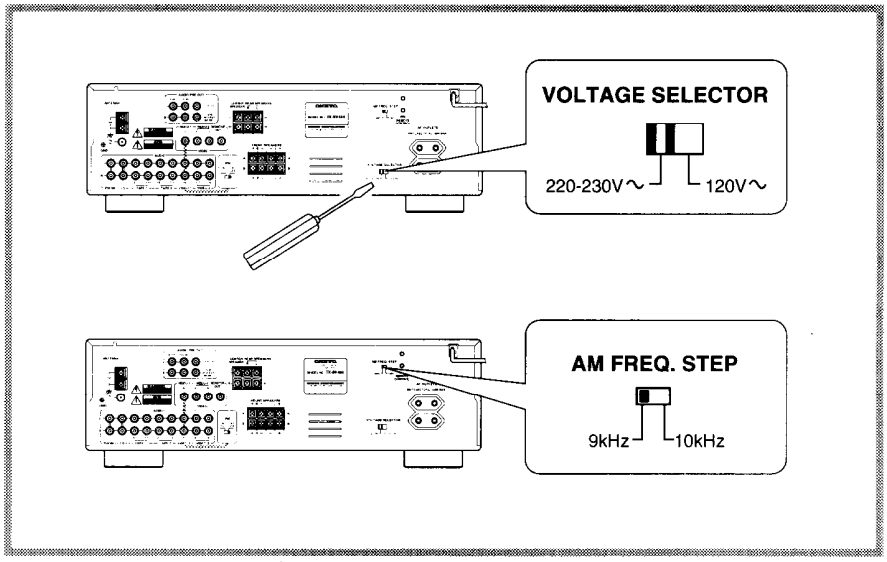


1 75/300 ohm antenna adaptor



1 CV plug (Shape may vary according to the area where purchased.)

Setting the voltage selector and tuning step frequency (Worldwide models only)



Voltage selector

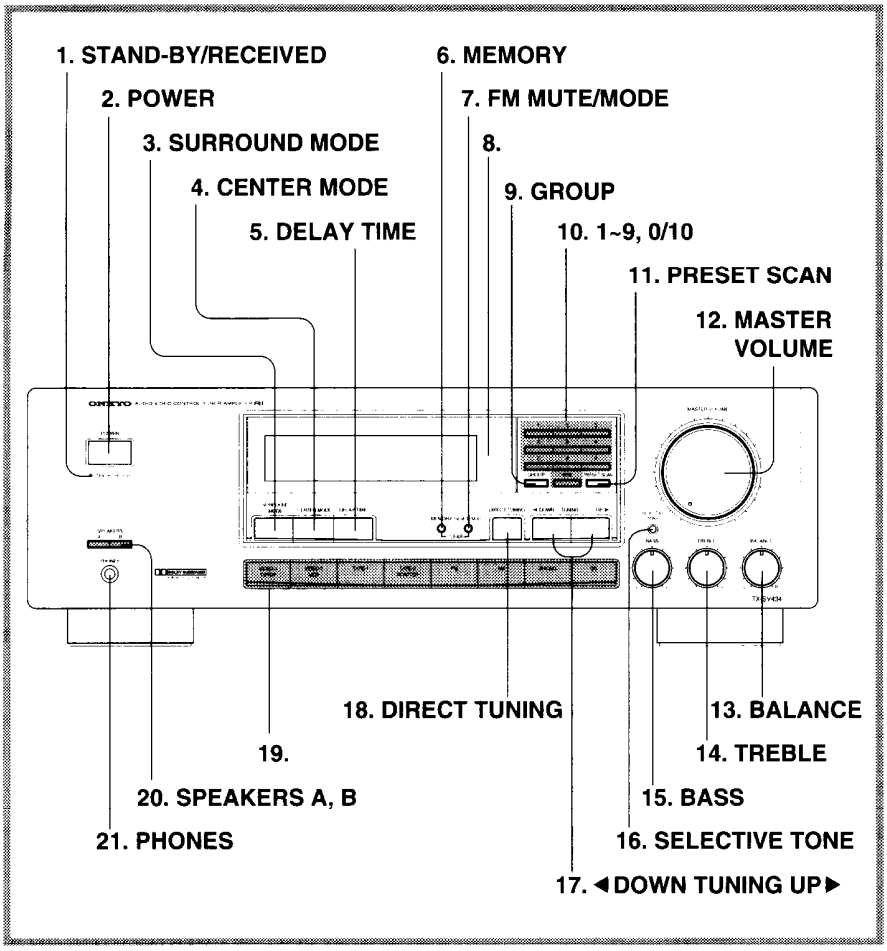
1. Determine the proper voltage for your area: 220-230V or 120V.
2. If the preset voltage is not correct for your area, insert a screwdriver into the groove in the switch. Slide the switch all the way to the right (120V) or to the left (220-230V), whichever is appropriate.

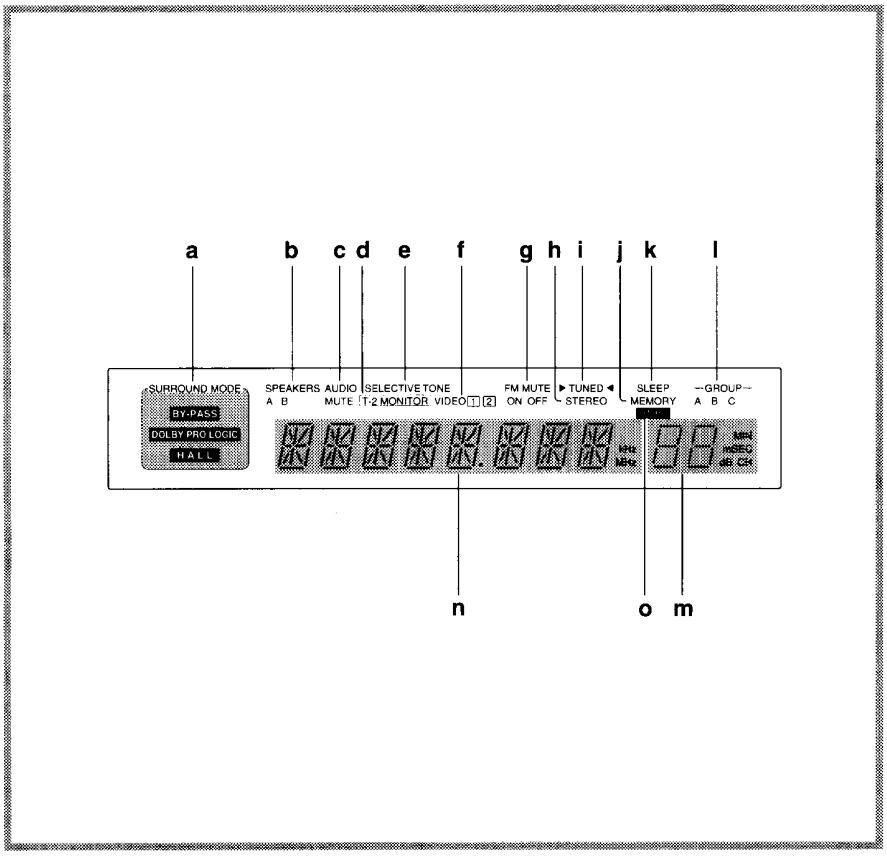
AM tuning step frequency

Worldwide models are equipped with a switch that controls the AM band tuning steps. Please set this switch to match the AM band tuning step frequency in your area.

U.S.A. and Canada : 10kHz
Other areas : 9kHz

Control positions and names





For more information about buttons or knobs, turn to page number listed in the [ ].

Front panel

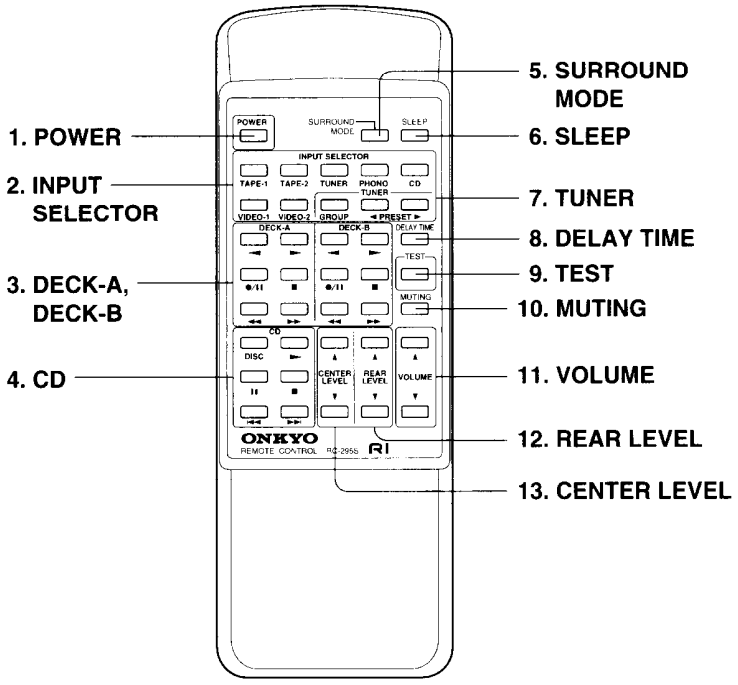
1. Stand-by/Received indicator [16]
2. Power button [15, 16]
3. Surround Mode button [21, 22, 23]
4. Center Mode button [21, 22, 23]
5. Delay Time button [21, 22]
6. Memory button [19]
7. FM Mute/Mode button [18, 19]
8. Remote control sensor [6, 14]
9. Group button [19]
10. Number buttons [18, 19]
11. Preset Scan button [19]
12. Master Volume control knob and indicator [15, 23]
13. Balance control knob [17]
14. Treble control knob [17]
15. Bass control knob [17]
16. Selective Tone control button [17]
17. Tuning Up/Down buttons [18]
18. Direct Tuning button [18]
19. Input selector buttons [15, 18, 24, 25]
20. Speaker selector buttons [15, 16]
21. Headphone jack [17]

Display

If there is a protective film on the surface of the display, which is making it difficult to read the display, remove it.

a. Surround Mode indicators
b. Speaker selector indicators
c. Audio Mute indicator
d. Tape-2 Monitor indicator
e. Selective Tone indicator
f. Video input selector indicators
g. FM Mute On/Off indicator
h. FM Stereo indicator
i. Tuned indicators
j. Memory indicator
k. Sleep indicator
l. Group indicators
m. Multi function display (Preset station/Sleep time/ Center & rear volume level/ Delay time)
n. Multi function display (Frequency/Input selector)
o. RDS station received indicator (European model only)

Remote control

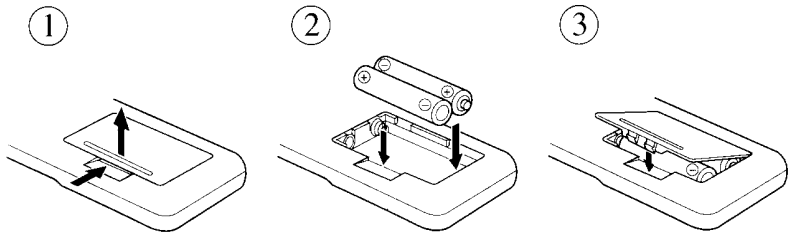


Remote control

1. **Power button [16]**
2. **Input Selector buttons [15, 24, 25]**
3. **Tape deck operation buttons [14]**
4. **CD player operation buttons [14]**
5. **Surround Mode button [21, 22, 23]**
6. **Sleep button [17]**
7. **Tuner operation buttons [19]**
8. **Delay Time button [21, 22]**
9. **Test tone button [21, 22]**
10. **Muting button [17]**
11. **Volume up/down buttons [15, 22, 23]**
12. **Rear Level up/down buttons [22]**
13. **Center Level up/down buttons [22]**

Note for European model: the remote control cannot be used when the POWER button on the front panel is set to the OFF.

Insert the batteries into the remote control according to the illustration.



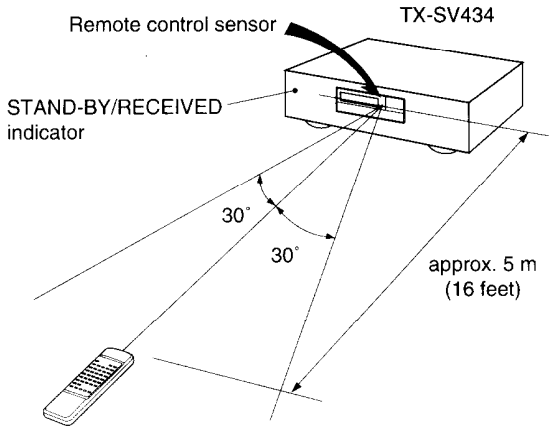
Regarding the batteries

Average battery life is about one year, depending upon the frequency of use and the environment (temperature and humidity) in which the remote control is used. Only use batteries of the kind specified in the table below.

Type	Voltage	Size
Manganese	1.5V	AA, R6 or UM-3

Warning

- Do not leave an expired battery in the case – it may leak or damage the remote control.
- Do not use nickel cadmium (rechargeable) batteries.
- Replace both batteries at once; do not use one old battery and one new battery.



Using the remote control

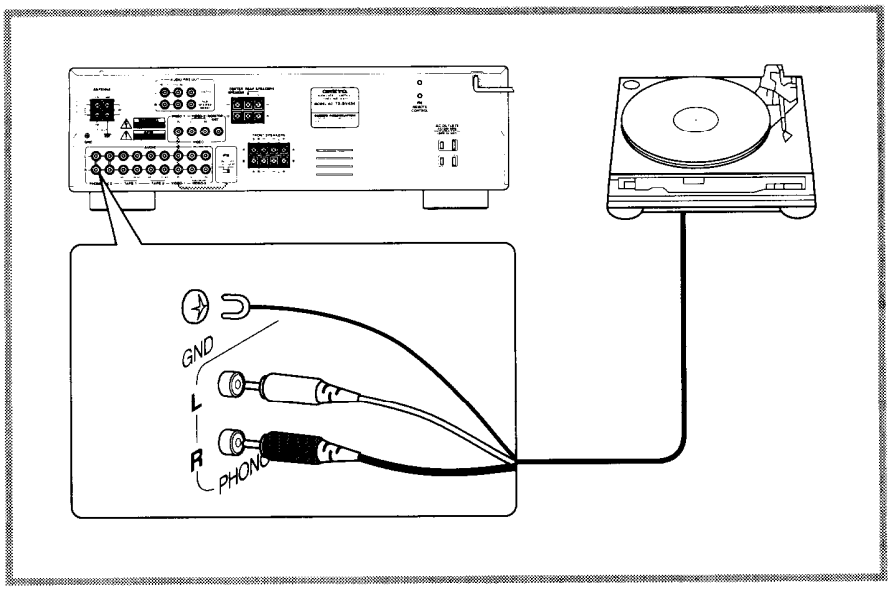
The STAND-BY/RECEIVED indicator lights when a signal is received from the remote control.

The following information will help you get optimal use from the remote control.

- Place this unit away from direct bright light, which can prevent proper operation of the remote control.
- Make sure audio rack doors do not have tinted glass. If this unit is placed behind such a door, this may prevent proper remote control operation.
- Using other remote controls in the same room as this unit's remote control may cause interference.

Making system connections

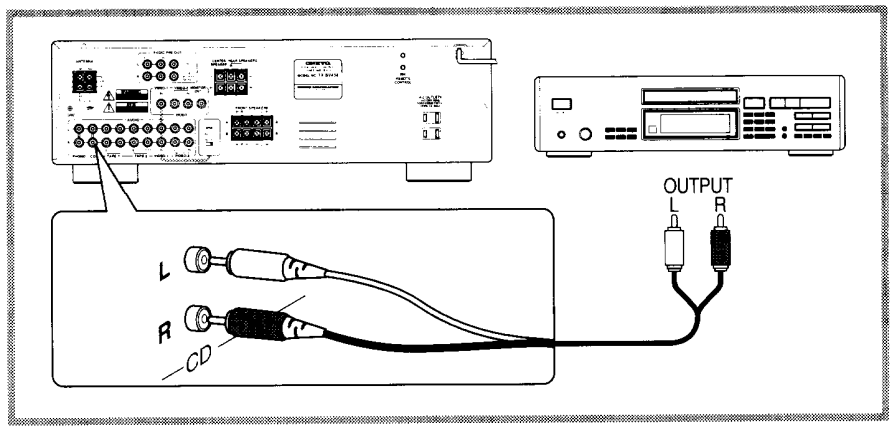
- **Do not plug in the power cord until all connections have been made.**
- **On each pair of input jacks, the lower jack (marked R) corresponds to the right channel, and the upper jack (marked L) to the left channel.**
- **Please refer to the instruction manual of each component when making any connections.**



Connecting a turntable (PHONO)

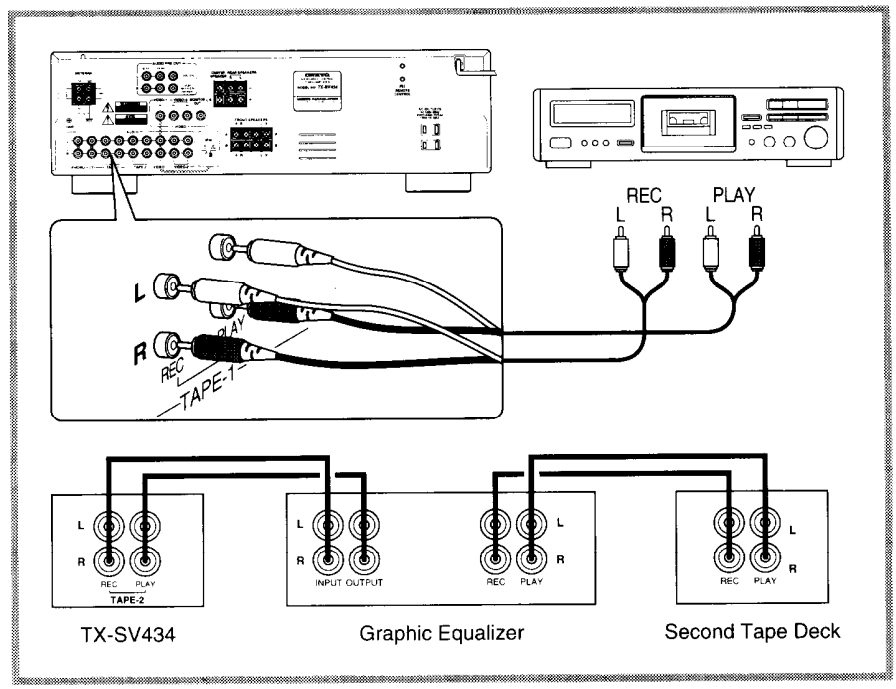
Connect the output leads of the turntable to the PHONO input jacks.
Be sure to connect the ground (earth) lead wire from the turntable to the ground terminal (GND). Turntables not provided with ground wires do not need to be connected in this way.
Place the turntable on a firm shelf or deck free from vibrations (especially those generated by the speaker system). If the turntable can pick up such unwanted vibrations, not only will the performance of the unit drop, but distortion in the bass frequencies and howling in the speakers may also occur.

- This unit is designed for use with turntables using moving magnet cartridges.



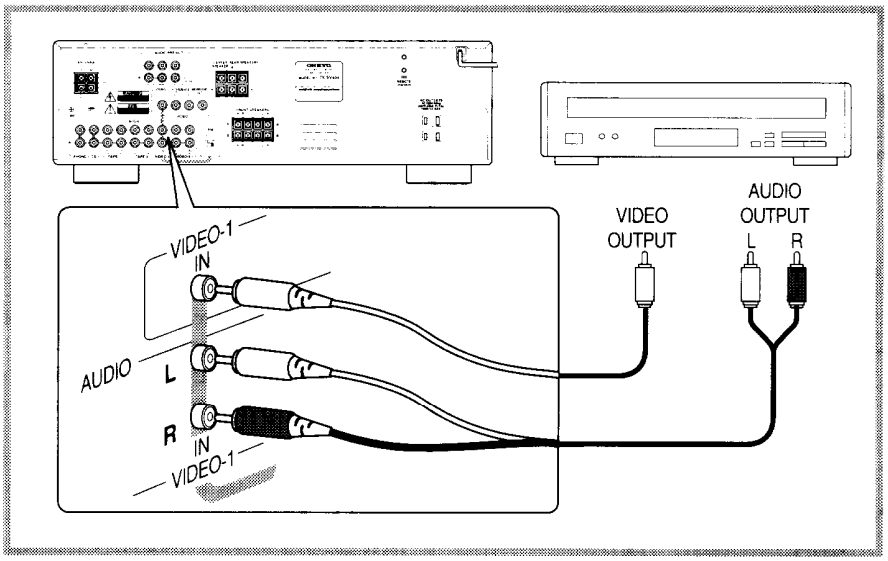
Connecting a CD player (CD)

Connect a compact disc player to the CD input jacks.



Connecting a tape deck (TAPE-1, TAPE-2)

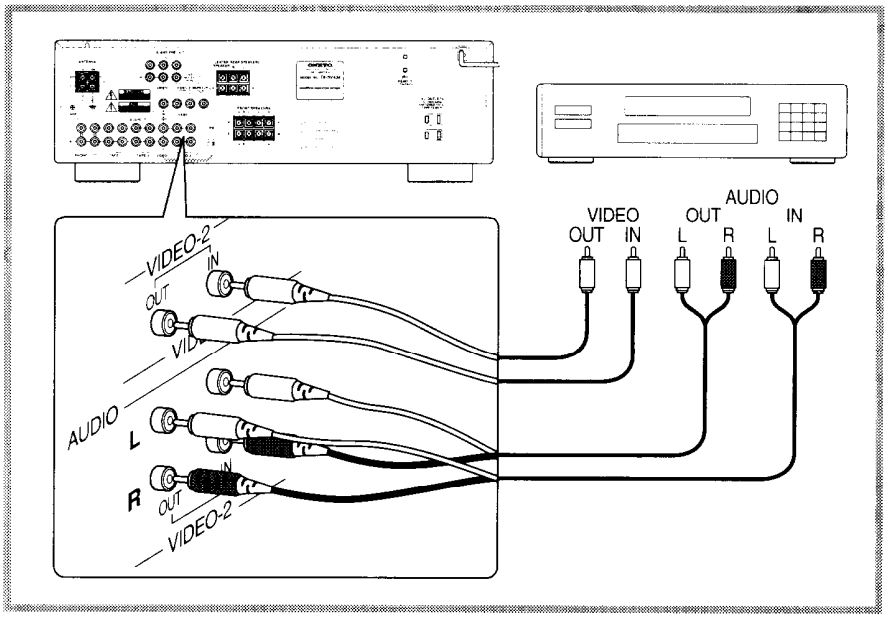
This unit has facilities for two tape decks.
If you are using only one tape deck, connect it to the TAPE-1 jacks. If you have two tape decks, connect one to the TAPE-1 jacks and the other to the TAPE-2 jacks.
If you wish to use a graphic equalizer as well as two tape decks, connect the graphic equalizer to the TAPE-2 jacks, and connect the second tape deck to the tape jacks on the graphic equalizer. (See the diagram.)
Connect the OUTPUT jacks on the graphic equalizer to the TAPE-2 PLAY jacks on the TX-SV434, and the INPUT jacks to the TAPE-2 REC jacks as shown.
See page 25 on how to use a graphic equalizer.



Connecting a video disc player or video cassette player (VIDEO-1)

Connect the video output of the video disc player to this unit VIDEO-1 "IN" jack of VIDEO terminals and the audio output to the VIDEO-1 L and R "IN" jacks of AUDIO terminals. The VIDEO-1 jack is only for playback, there is no OUT jack. For more details, refer to the video player instruction manual.

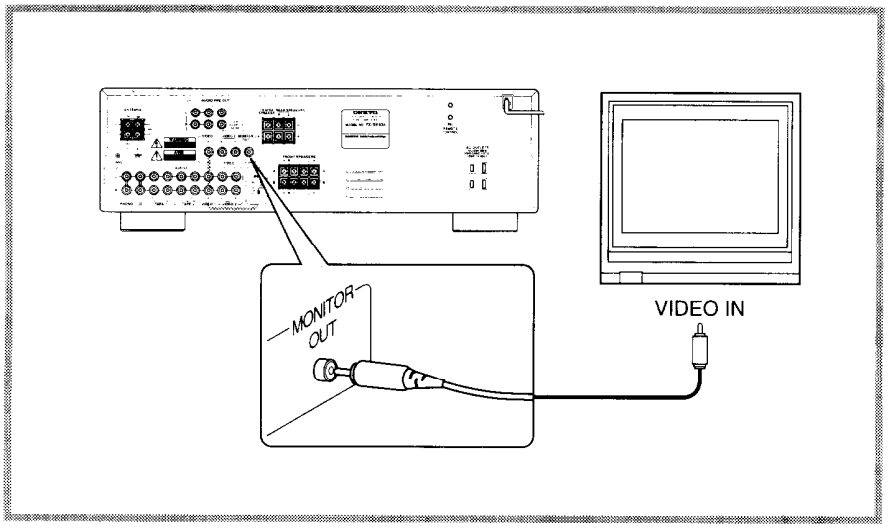
- The IPM (Intelligent Power Management) function can operate only if a TV is connected to the VIDEO-1 jacks. (See page 10).



Connecting a video cassette recorder (VIDEO-2)

Connect the video output of the VCR to this unit VIDEO-2 "IN" jack of VIDEO terminals and the video input of the VCR to the VIDEO-2 "OUT" jack of VIDEO terminals. Then connect the audio output of the VCR to the VIDEO-2 L and R "IN" jacks of AUDIO terminals. Finally, connect the audio input of the VCR to the VIDEO-2 L and R "OUT" jacks of AUDIO terminals. For more details, refer to the VCR instruction manual.

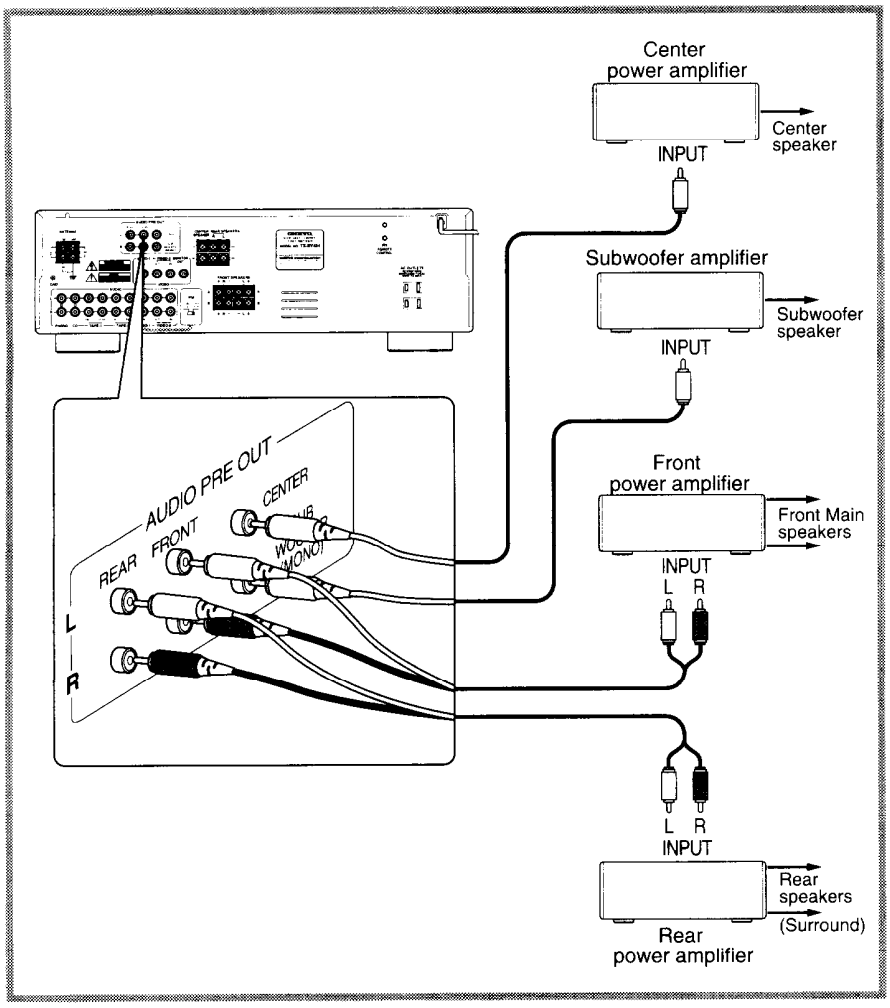
- When using a playback-only VCR, you only need to make the output connections.



Connecting a monitor (MONITOR OUT)

Connect the TV video input to this unit MONITOR OUT jack. There is no need to perform an audio connection since sound will be sent directly from this unit to the speaker systems.

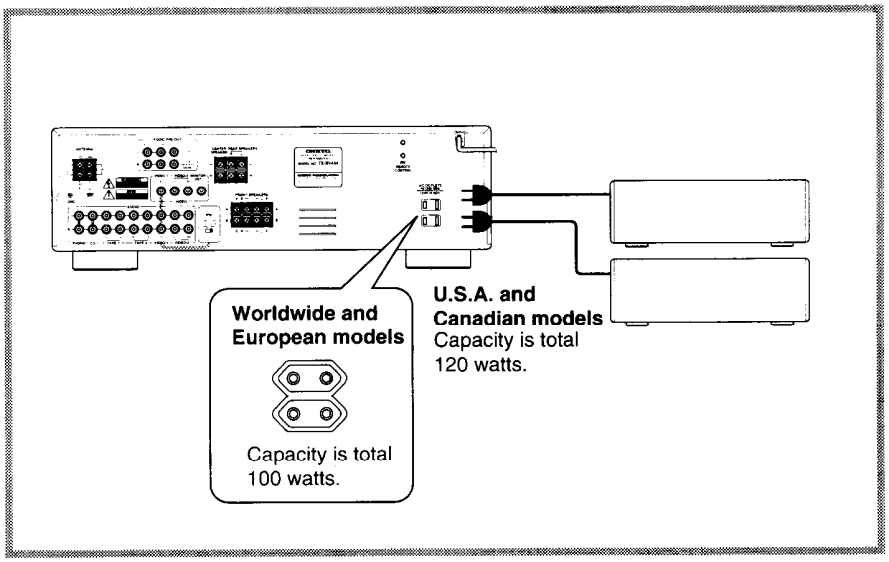
- This unit can be used with only a monitor TV equipped with a video input jack.
- Interference may be caused between the TV and this unit. If this interference occurs place this unit and the TV as for apart as possible.
  We do not recommend the use of a common TV/FM antenna (see antenna section).



Amplifier connections

This unit is equipped with a set of AUDIO PRE OUT terminals which allow you to connect external power amplifiers for surround sound. Connect the power amplifiers to the AUDIO PRE OUT terminals of this unit, and connect the corresponding speakers to those power amplifiers.

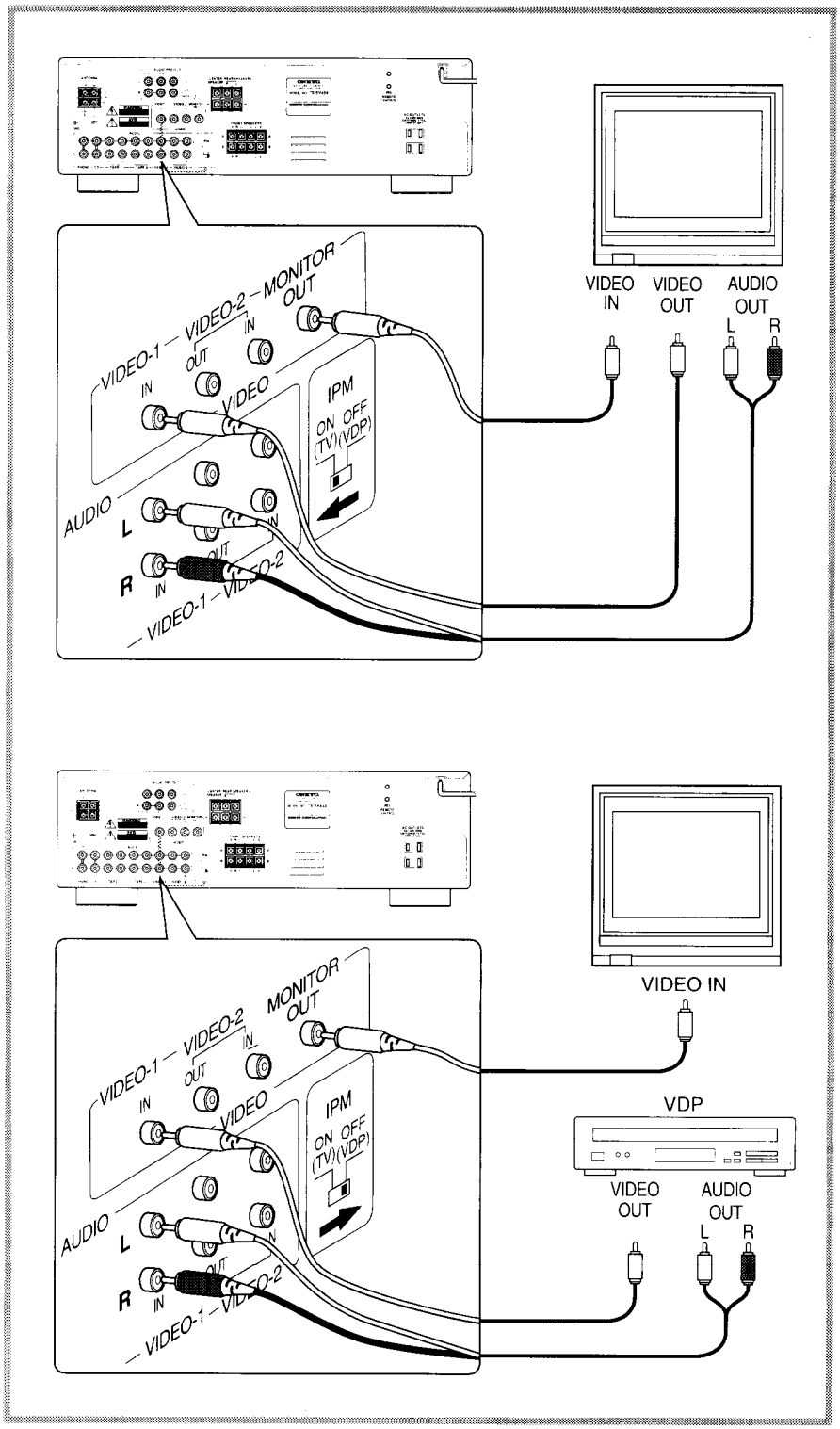
- When using power amplifiers connected to the FRONT, REAR, CENTER and/or SUB WOOFER jacks, set the SPEAKERS A button on the front panel to ON.



AC outlets

The SWITCHED outlets are switched on and off by the POWER button on the front panel or remote control. (Note for European model: the remote control cannot be used when the POWER button on the front panel is set to the OFF.)

The shape, number and total capacity of the AC outlets may differ according to the area where the unit is purchased. Be careful that other components connected to this unit do not exceed the capacity that is printed on the rear panel above the AC outlets.



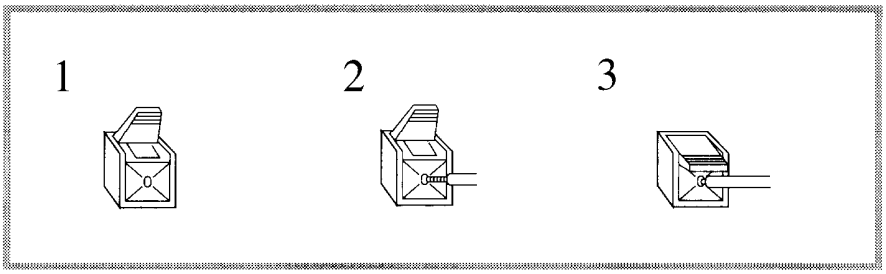
IPM (Intelligent Power Management) System

To use the IPM function you must connect the video output of a TV to the VIDEO-1 jacks and set the IPM switch to ON (TV). When the TV is switched on, this unit switches on automatically and the input selector is set to VIDEO-1 TV/VDP.
Provided that the input selector remains set to VIDEO-1 TV/VDP, this unit will switch off automatically when the TV is switched off.

- This unit will automatically switch on approximately three to five seconds after the TV comes on.
- If the TV is on but the screen is blank, the IPM function will not work.
- If a mono TV is used, connect the audio output of the TV to the VIDEO-1 "L" jack.

When a VDP is connected to the VIDEO-1 jacks, set the IPM switch to OFF (VDP). The IPM function cannot be used in this situation.

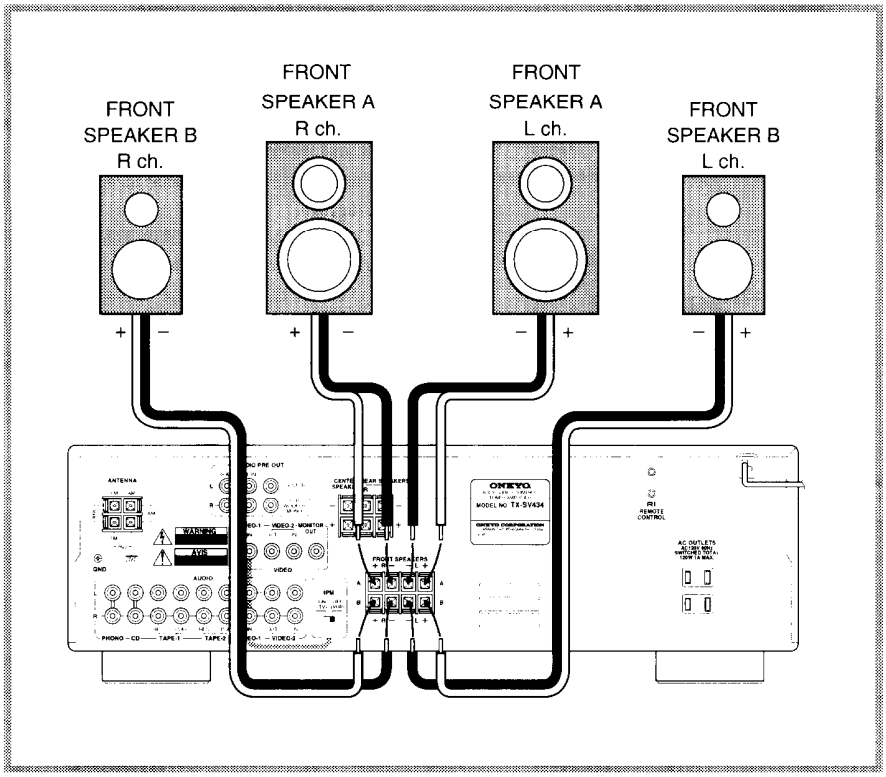
Making speaker connections



Connecting the speaker cables

1. Open the lever.
2. Insert the wire.
3. Close the lever.

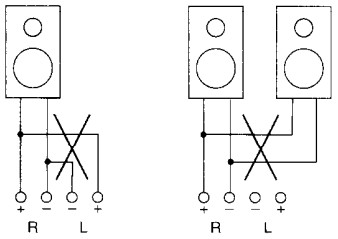
Before making any connections, please refer to the explanation of "Speaker impedance".

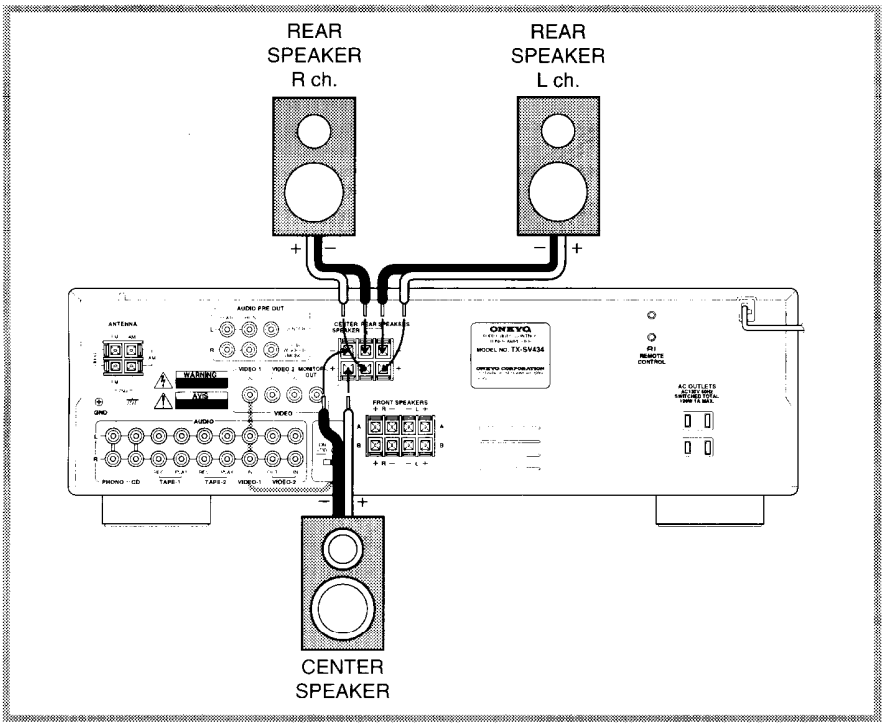


Connecting the front speakers

You can connect two pairs of speakers. Please connect each speaker according to the illustration, observing the correct connections for R, L, + and –.

- Do not use unnecessarily long or extremely thin speaker leads. If the DC resistance of the speaker leads is too high, the damping factor will decrease, adversely affecting the sound quality.
- When using only one speaker or when you wish to listen to monaural (mono), the single speaker should never be connected in parallel to both the right and left channel terminals at once.





Connecting the center and rear speakers

Connect the center speaker and rear speakers (right and left) to the TX-SV434.

Speaker impedance

This unit is designed to produce optimum sound quality when speakers with impedances within the set ranges are connected. Please check the following information and choose speakers with the necessary impedances for the connections.

FRONT SPEAKERS

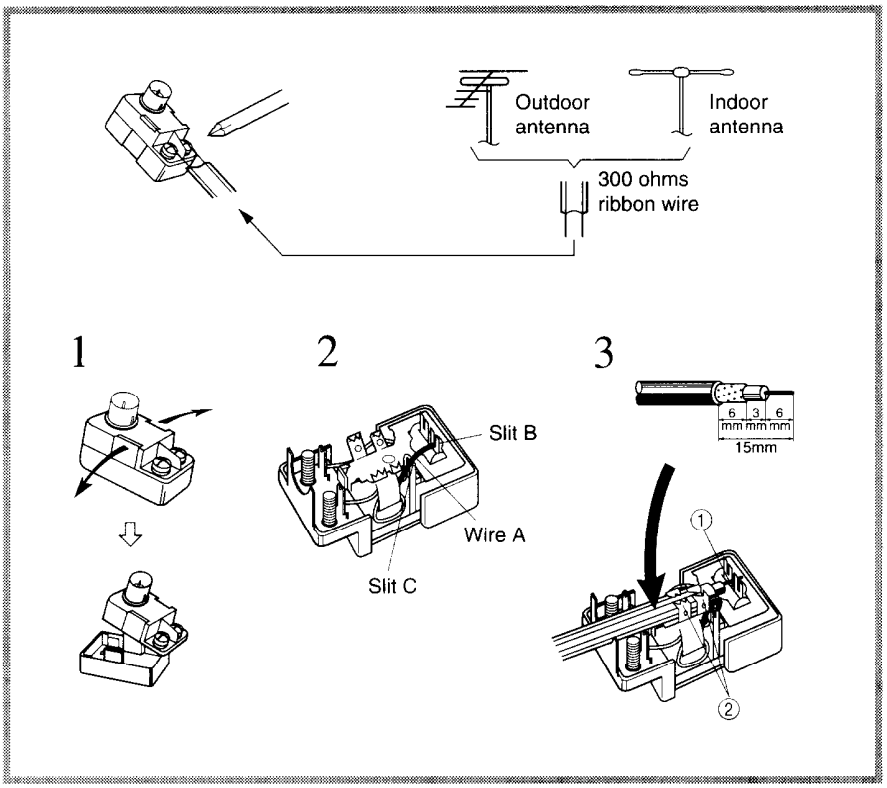
A or B : 6 ohms min./speaker
A + B : Can not be used at the same time.

U.S.A. models:
A or B : 6 ohms min./speaker
A + B : 12 ohms min./speaker

CENTER SPEAKER: 8 ohms min.

REAR SPEAKERS: 8 ohms min./speaker

Making antenna connections



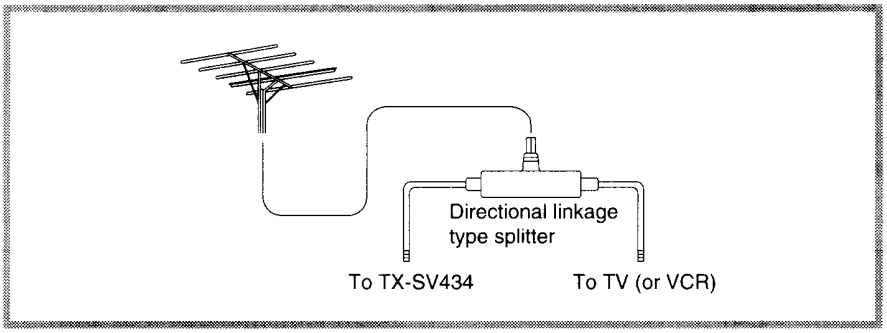
Connecting the antenna cable to the 75/300 ohm antenna adaptor (Worldwide models)

Connecting the 300 ohm ribbon wire:
Loosen the screws and wrap the wire around these screws. Then tighten the screws with a screwdriver.

Connecting the coaxial cable:

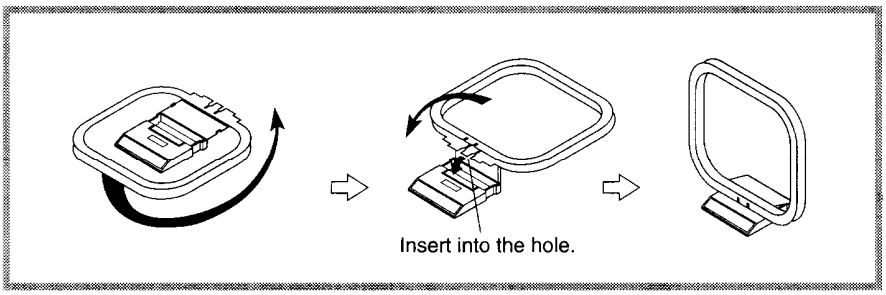
1. With your fingernail or a small screwdriver, press the stoppers outwards and remove the cover.
2. Remove the transformer wire A from slit B and insert it into slit C.
3. Prepare the coaxial cable as shown in the diagram.
   Connect the 75/300 ohm antenna adaptor to the coaxial cable.
   ① Insert the end of the cable.
   ② Clamp it in place with pliers.

- This adaptor is included if your TX-SV434 is a worldwide model.



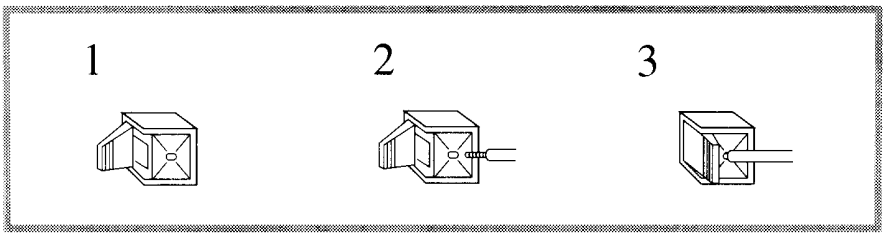
Directional linkage

Do not use the same antenna for both FM and TV (or VCR) reception since the FM and TV (or VCR) signals can interfere with each other. If you must use a common FM/TV (or VCR) antenna, use a directional linkage type splitter.



Assembling the AM loop antenna

Assemble the loop antenna as shown in the illustration.

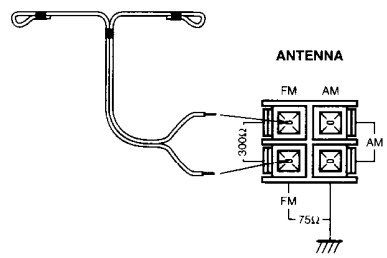


Connecting the antenna cable

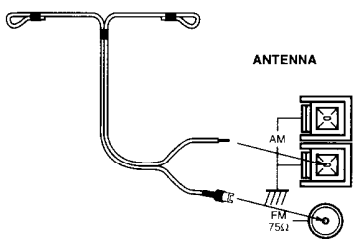
1. Open the lever.
2. Insert the wire.
3. Close the lever.

Making antenna connections

U.S.A. and Canadian models



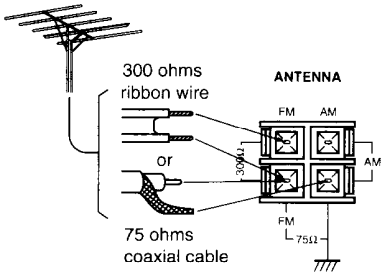
European and Worldwide models



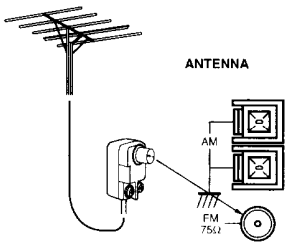
Connecting the T-shaped FM antenna

The T-shaped FM antenna is for indoor use only. Extend the antenna and move it in various directions until the clearest signal is received. Fix it with push pins or similar in the position giving the least amount of distortion.

U.S.A. and Canadian models



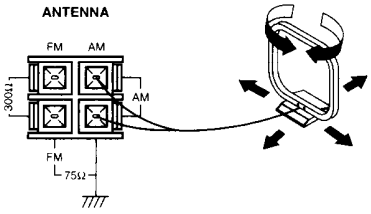
European and Worldwide models



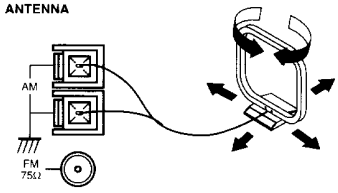
Connecting an FM outdoor antenna

If the reception is not very clear with the attached T-shaped FM antenna, the use of an external antenna is recommended.
Please make sure that you comply with the following considerations regarding the location.
Keep the antenna away from noise sources (neon signs, busy roads etc.).
It is dangerous to put it close to power lines, so keep it well away from power lines, etc.

U.S.A. and Canadian models



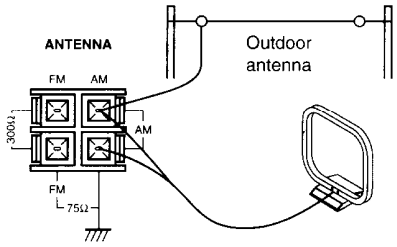
European and Worldwide models



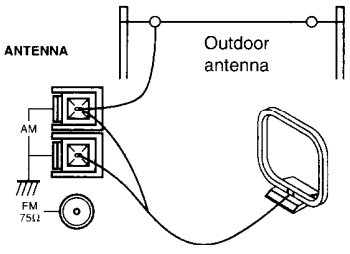
Connecting the AM loop antenna

The AM loop antenna is for indoor use only. Set it in the direction and position where you receive the clearest sound. Put it as far as possible away from the main unit, TV set, speaker cords and power cord.

U.S.A. and Canadian models



European and Worldwide models

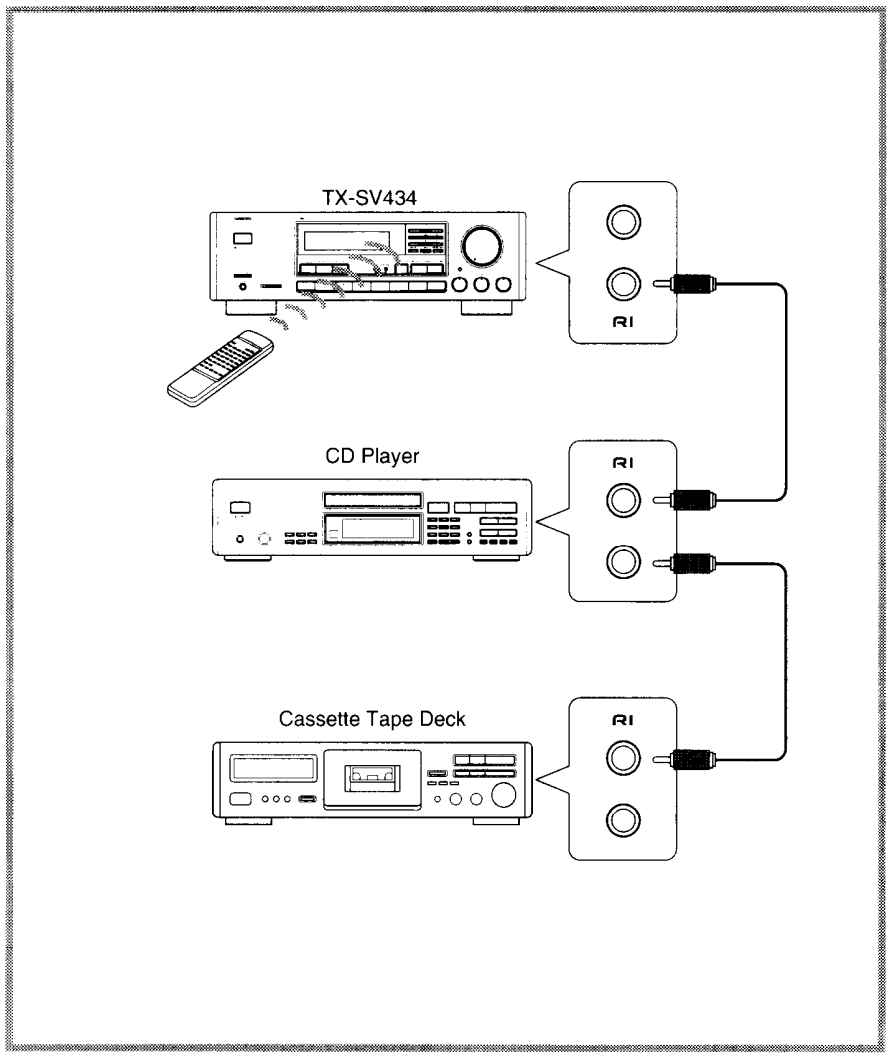


Connecting an AM outdoor antenna

When reception is not satisfactory using the attached AM loop antenna alone, connection of an external antenna is recommended.
(Do not remove the AM loop antenna.)
The external antenna will be more effective if you stretch it horizontally in a high place above a window or outside.

Connecting Onkyo components for RI operation

When Onkyo products with the RI (Remote Interactive) mark are connected to the TX-SV434, you are able to operate each component with the remote control of the TX-SV434. This means you can control your whole system with just one remote control.
(The RI mark is an Onkyo mark.)



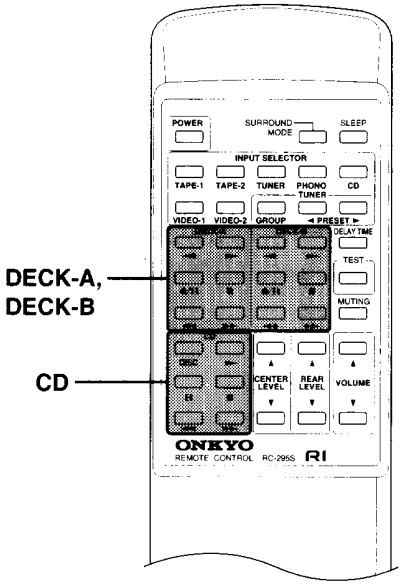
Connections for remote control (RI)

When connecting Onkyo products, it is necessary to attach the RI cable to be able to use the remote control of the TX-SV434 to control the entire system.

1. To use the TX-SV434 with an Onkyo compact disc player and cassette tape deck bearing the RI mark, connect the components together using RI remote control cable, plugged into the REMOTE CONTROL jacks.
2. As the exact connection sequence of the RI cable is unimportant, you can connect from this unit to either the compact disc player or the cassette tape deck.
3. To operate correctly, the remote control must face towards the remote control sensor of this unit.

NOTES:

- The upper and lower RI remote control jacks have the same function.
- A cassette tape deck and compact disc player that have the Onkyo RI mark can be operated, using the accessory remote control.
- Remote control operation is not possible when only the remote control cable is connected – the audio connection cables must also be connected.
- An RI remote control cable equipped with a 3.5mm (1/8 in.) diameter miniature two-conductor phone plug is included with every compact disc player or cassette tape deck with the RI mark.



When you have made the connections mentioned above, you will be able to use the following buttons.

Tape deck operation buttons (DECK-A, DECK-B)

- ◄ : Reverse play button
- ► : Forward play button
- ●/II : Rec/pause button
- ■ : Stop button
- ◄◄ : Fast rewind button
- ►► : Fast forward button

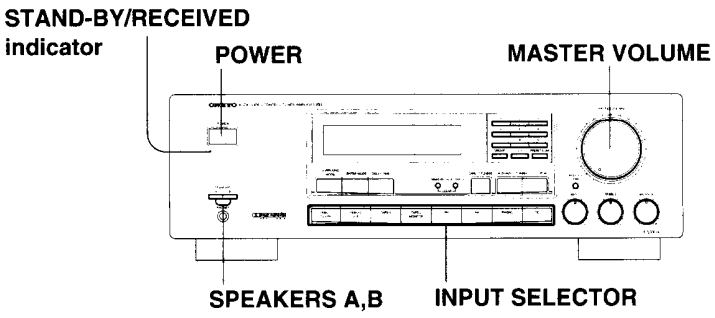
- When only a single deck is used, operate DECK-B.

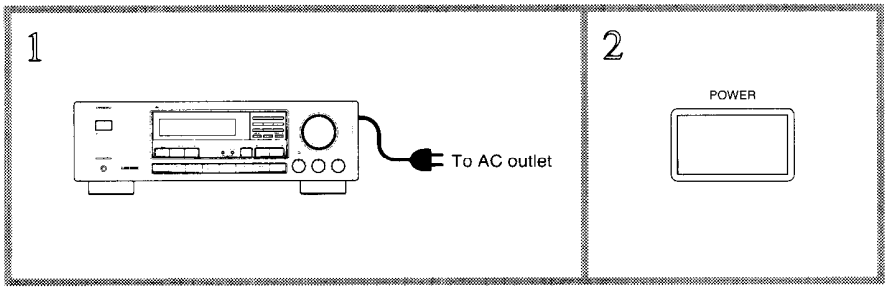
CD player operation buttons (CD)

DISC : Disc button for CD changer

- ► : Play button
- II : Pause button
- ■ : Stop button
- ⏮ : Down button
- ⏭ : Up button

Basic operations

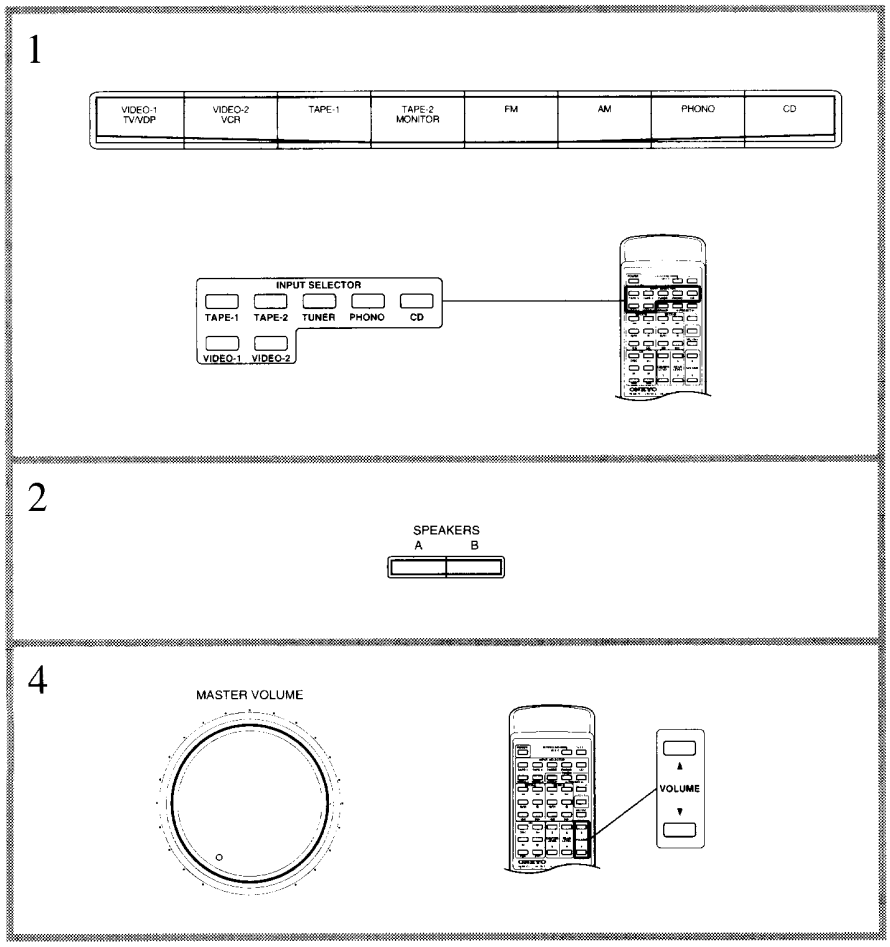




Connecting the power

Before plugging in the unit, confirm that all connections have been made properly.

1. **Insert the AC power supply cord into the wall outlet.**
2. **Press the POWER button.**
   Please refer to the "Power button and Stand-by/Received indicator" explanation on the page 16.



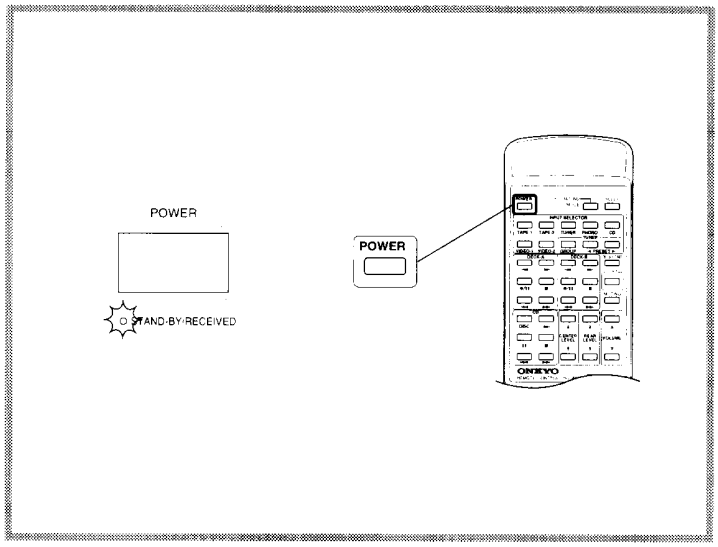
Listening to your favorite source

1. **Press the desired input selector button (e.g. PHONO).**
   The appropriate letters (e.g. PHONO) appear on the display.
   Confirm that the T-2 MONITOR indicator is off when a source other than the TAPE-2 MONITOR has been selected. Also check the audio muting is off.
2. **Press the SPEAKERS A button.**
   SPEAKERS A indicator lights up.
   (Refer to the "Speakers selector" on the page 16 for details.)
3. **Start the selected input source playing.**
   Follow the operating instructions of that unit.
4. **Set the volume to appropriate level using the MASTER VOLUME control or VOLUME ▲(up)/▼(down) buttons on the remote control.**
   These controls set the volume of the Front, Center, and Rear (Surround) speakers.

Receiving RDS (European model)

When an RDS (Radio Data System) station broadcasting PS (Program Service Name) information is received, the RDS indicator lights up and name of the station will be displayed instead of the frequency.

- RDS reception is only available on the European model, and only in areas where RDS broadcasts are available.

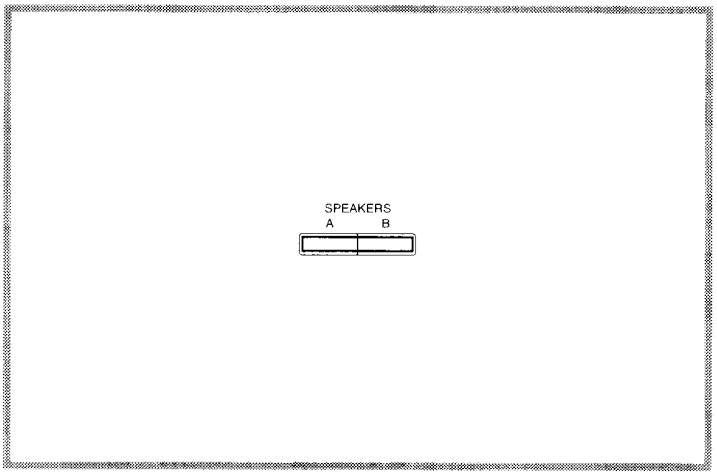


Power button and Stand-by/Received indicator

If your TX-SV434 is not a European model:
The STAND-BY/RECEIVED indicator lights up when the power cord connected to this unit is plugged into an AC wall outlet. This indicates that the unit is in Standby mode, ready for operation.
To turn on the unit fully, press the POWER button. The display will light up and the STAND-BY/RECEIVED indicator will go off.

If your TX-SV434 is a European model:
Press the POWER button to turn on this unit. The display will light up. Press the POWER button on the remote control to put this unit in Standby mode. The STAND-BY/RECEIVED indicator will light up.

The STAND-BY/RECEIVED indicator also flashes when a signal is received from the remote control.

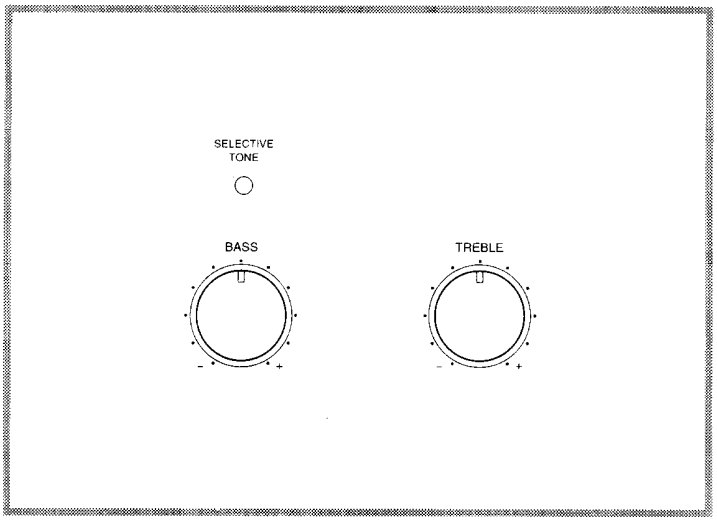


Speakers selector

SPEAKERS A: This button turns on or off the speakers connected to the FRONT A, CENTER and REAR SPEAKERS terminals.
When the speakers are turned on, the SPEAKERS A indicator lights up.

SPEAKERS B: This button turns on or off the speakers connected to the FRONT B SPEAKERS terminals.
When the speakers are turned on, the SPEAKERS B indicator lights up.

- With U.S.A. model, Speaker A and B can be used at the same time.
- Other models, cannot be used at the same time. When one button is pressed, the other button is automatically turned off.



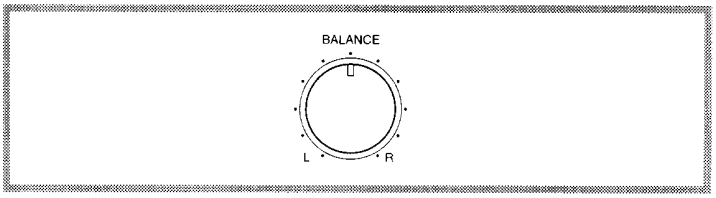
Adjusting the tone

Treble, Bass and Selective Tone are effective only for the Front speakers or headphones.
The best results are obtained from DOLBY PRO LOGIC Surround when the Center and Front speakers contain the same amounts of mid and high frequencies. As the Treble and Bass control do not affect the Center speaker, adjust the tone controls for the Front left and right speakers to match the sound given by the Center speaker. Because of this, we recommend the use of a good quality Center speaker.

BASS: Adjust to strengthen or weaken bass response.

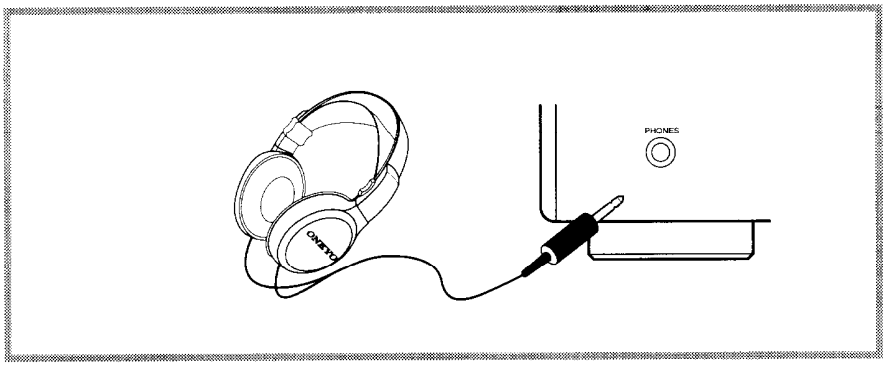
TREBLE: Adjust to strengthen or weaken treble response.

SELECTIVE TONE: This control is used to clearly reproduce ultra low and high frequencies, and only affects the Front speakers. When this control button is pressed, the SELECTIVE TONE indicator lights up.



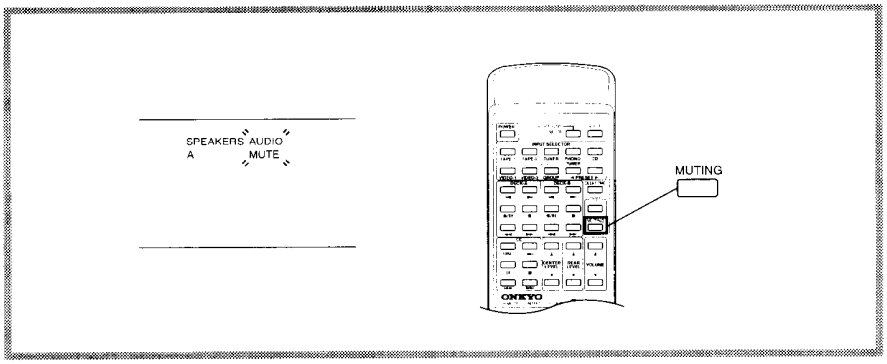
Adjusting the balance

The BALANCE control is used to control the relative volume levels of the Front speakers or headphones.



Listening with the headphones

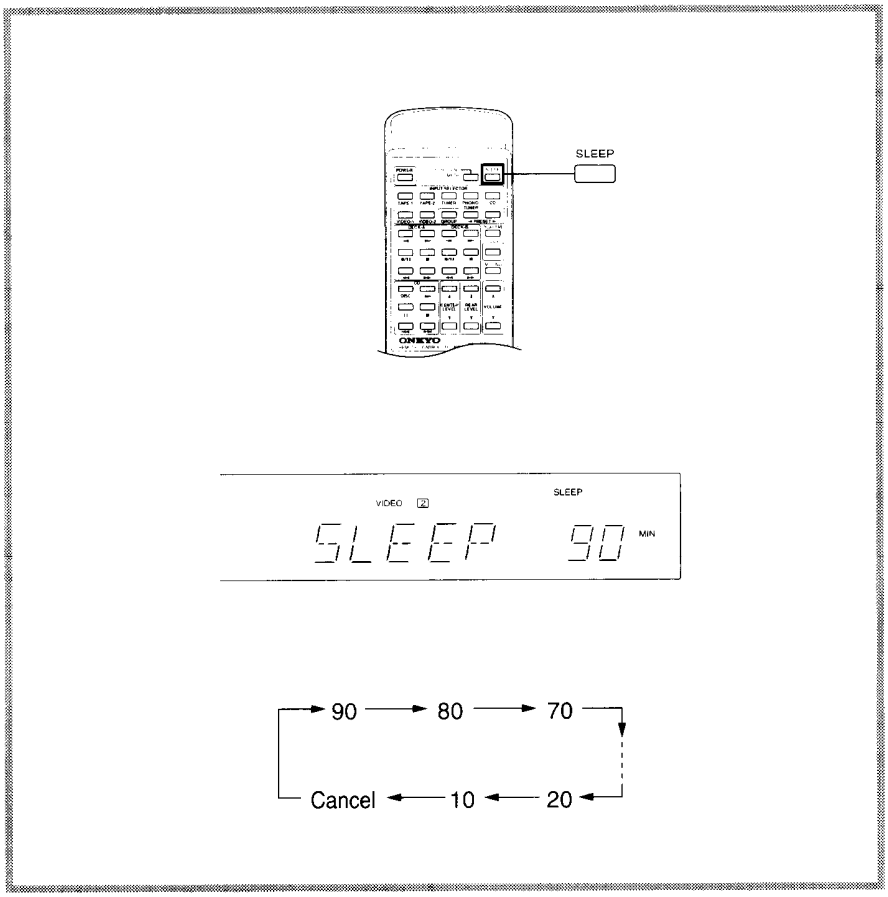
Stereo headphones with a standard stereo jack plug can be connected to the PHONES jack. The sound heard through the headphones is the same sound that can be heard from the Front speakers, although it may be slightly different from what is heard from the speakers when the Surround mode is used. (The sound from the headphones may sound a little distant.)



Temporary muting

Press the MUTING button on the remote control.
This button temporarily switches off the sound from the speakers or headphones. The AUDIO MUTE indicator will blink.

To cancel,
- press the MUTING button again, *or*
- turn the power off, then on.



Sleep facility

The sleep timer can power off the system after a specified time period.
To operate this function, use the remote control supplied with your TX-SV434.

1. **Start the source playing that you would like to listen to (CD, tape or radio broadcast).**
2. **Set the amount of time after which you want the system to turn off.**

The sleep timer works for up to 90 minutes. You can shorten the timer by 10 minutes increments by pressing the SLEEP button until the desired time has been reached.
When the set time comes, the power will be switched off automatically.

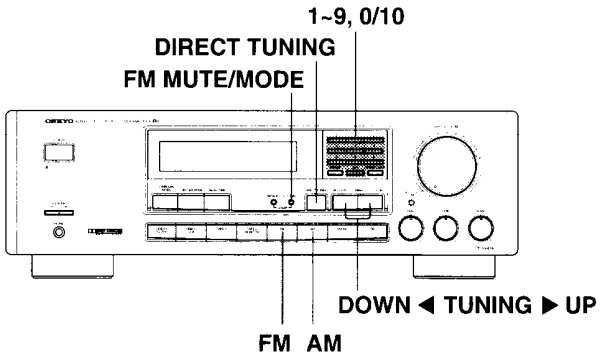
Cancelling the sleep setting

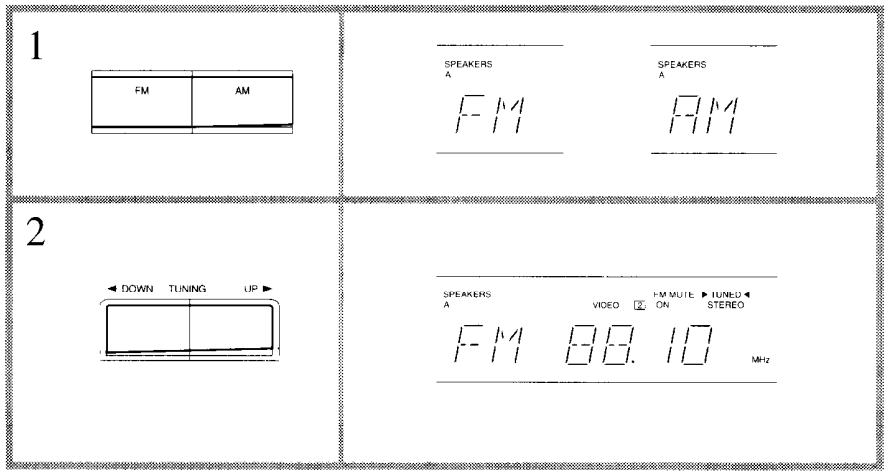
Press the SLEEP button until it changes to the source display you are listening to.
or
The timer can also be cancelled while it is in operation, by turning off the power.

The direct function

If the compact disc player or tape deck connected to this unit feature the **RI** mark, you can use the direct function to automatically set the input selector. Simply operating the compact disc player, for example, will automatically set this unit's input selector to CD. This means you don't have to set this unit's input selector when changing the music source.

Receiving stations

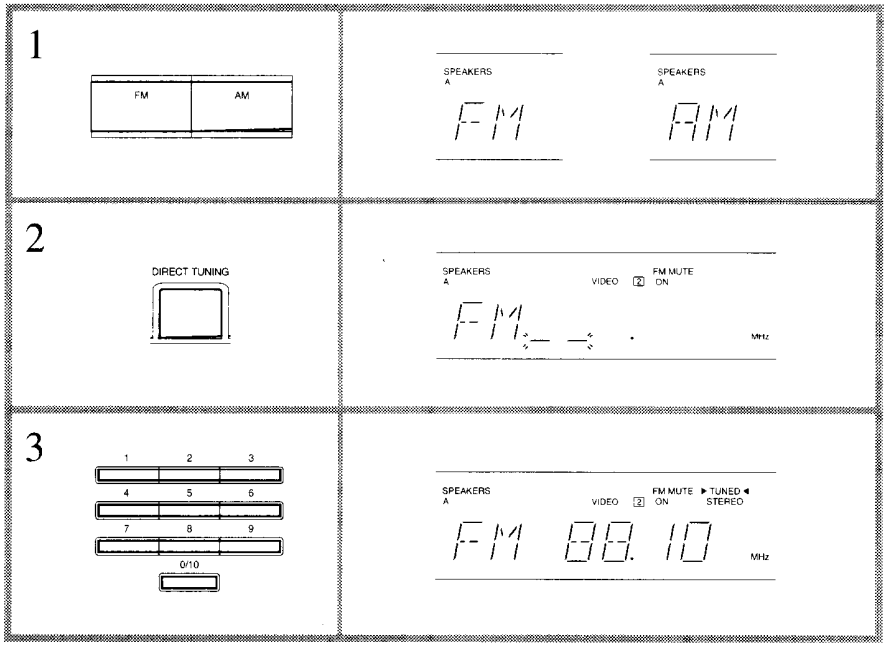




Manual tuning

1. **Press the FM or AM button.**
2. **Use the TUNING UP/DOWN buttons to change the frequency.**
   UP ..... the frequency increases.
   DOWN .. the frequency decreases.

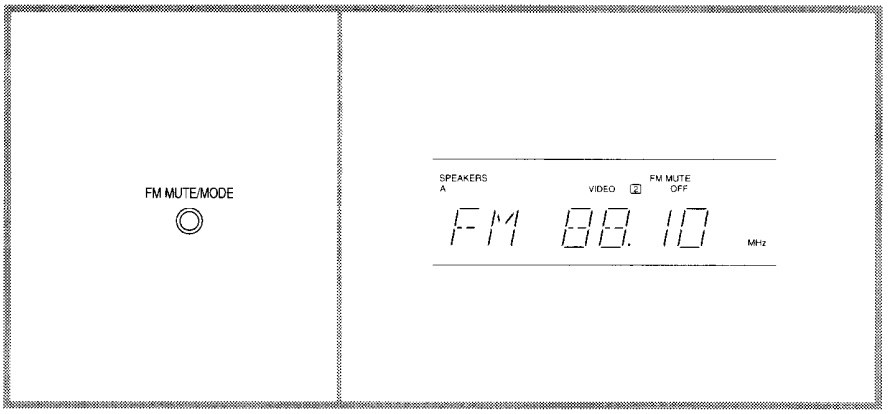
- The frequency is changed in 100kHz (or 50kHz) steps in FM and 10kHz (or 9kHz) in AM when the TUNING UP/DOWN button is pressed in single steps.
- In FM, if this button is held continuously for more than 0.5 seconds, the frequencies are scanned automatically (FM auto tuning mode). When a broadcast is received, scanning stops.



Direct tuning

1. **Press the FM or AM button.**
2. **Press the DIRECT TUNING button.**
   The "_ _" will flash 16 seconds in the frequency display.
3. **Enter the frequency with the number buttons while the cursor are flashing.**
   Example: 88.10MHz
   $8 \rightarrow 8 \rightarrow 1 \rightarrow 0/10$
   Use the 0/10 number button to enter a 0.

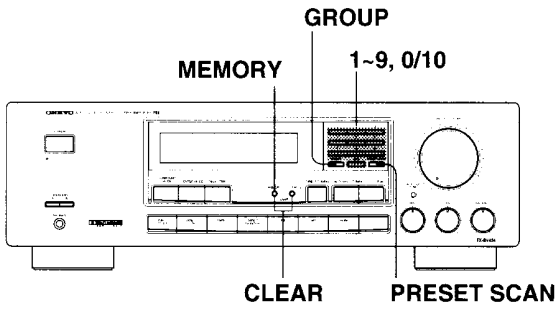
- If you enter a frequency that is out of range, this unit will return to the previous frequency. If this happens, repeat the procedure.
- When receiving AM broadcasts with a 10kHz steps, entering a number for the 10kHz digit will set the 1kHz digit automatically to 0.

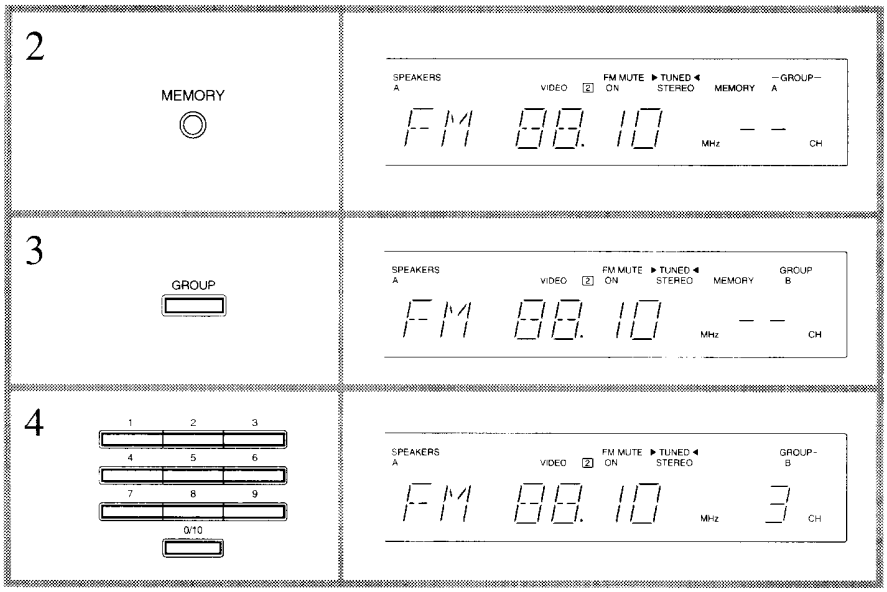


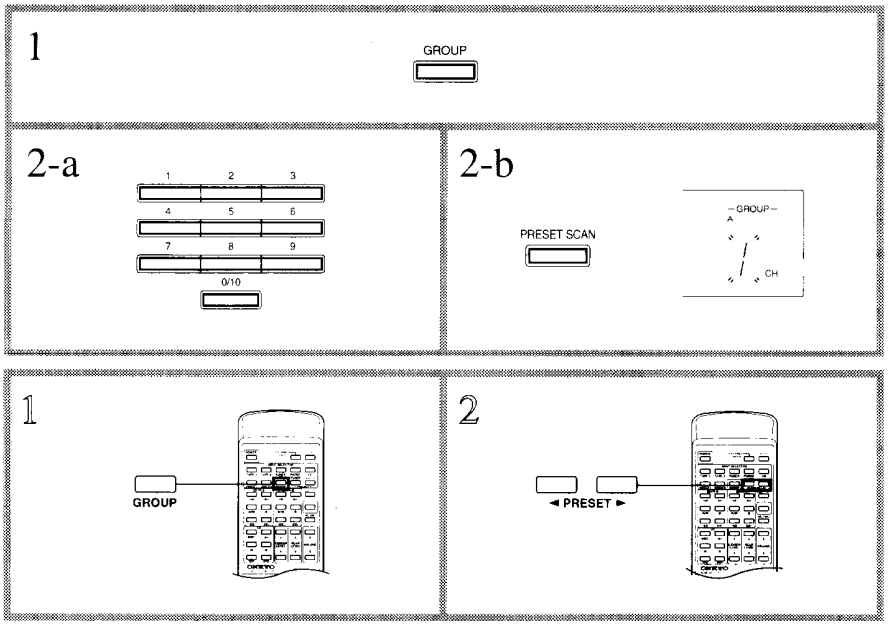
Listening to a stereo radio stations (FM mode)

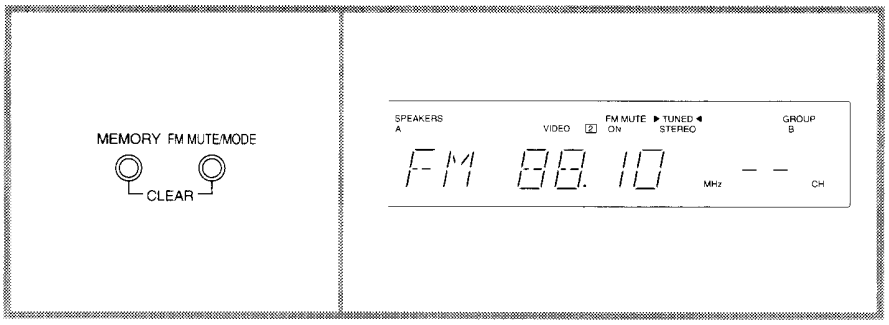
If you tune in a stereo FM station, the STEREO indicator will be illuminated if the signal is sufficiently strong.
If the signal is weak, it may be impossible to tune in to your desired station. In this case, tune in as follows.
Press the FM MUTE/MODE button and FM MUTE OFF indicator lights. At this time, the station will be in mono and interstation noise will be heard. Select the station you want listen to.

Using preset stations









Programming radio stations

1. **Select the frequency that you want to store in the memory.**
   (See Receiving stations on page 18.)
2. **Press the MEMORY button.**
   The MEMORY indicator will light for 8 seconds.
3. **While the MEMORY indicator lights, press the GROUP button to choose the desired group.**
   The group shown on the display changes in the following order each time the button is pressed: A → B → C → A.
4. **Select the desired memory number using the number buttons.**
   Use the 0/10 number button to enter a 10.

- Since ten AM or FM stations can be stored in each group (A, B or C), a total of 30 stations can be stored in the memory.

Recalling preset stations

1. **Press the GROUP button to select the desired group.**

2-a. **Input the memory number you wish to receive by using the number buttons.**

2-b. **Press the PRESET SCAN button.**
   Each station stored in the group chosen in step 1 will be received for 5 seconds (for each station).
   When the station that you want is found, press the PRESET SCAN button again and scanning will stop.

Use Remote control

1. **Press the GROUP button and choose the group.**
2. **Press the PRESET (◄ or ►) button.**
   After the last number of GROUP C is reached, scanning will restart at GROUP A.

Cancelling preset stations

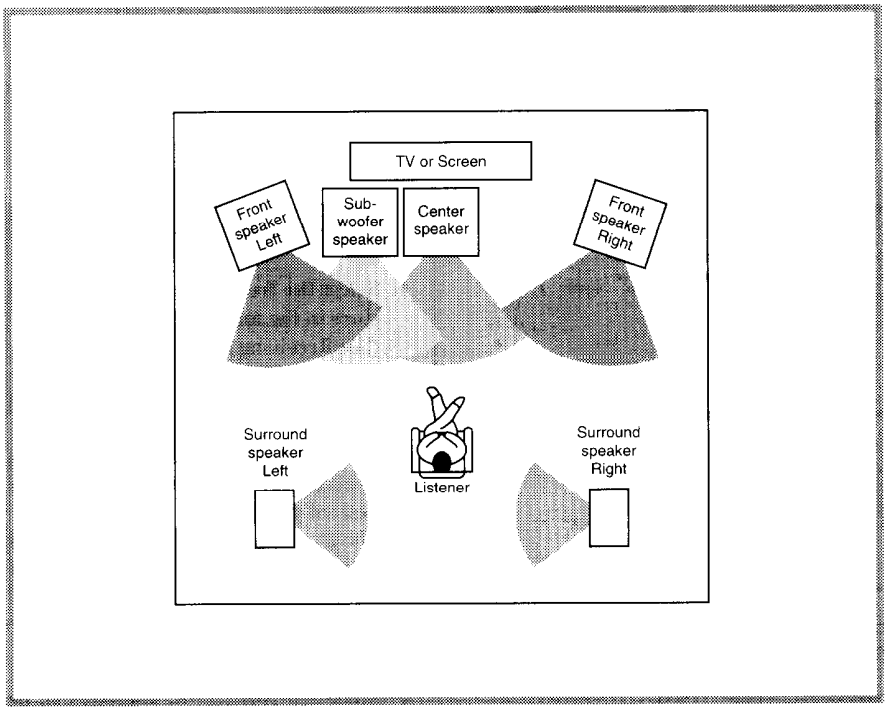
1. **Select the station as explained in the previous section.**
2. **Press the FM MUTE/MODE button while holding down the MEMORY button. "_ _" will be shown on the channel display.**

- Once the preset station has been cancelled, the memory location can be used to store another station.

Dolby Pro Logic Surround

Surround system

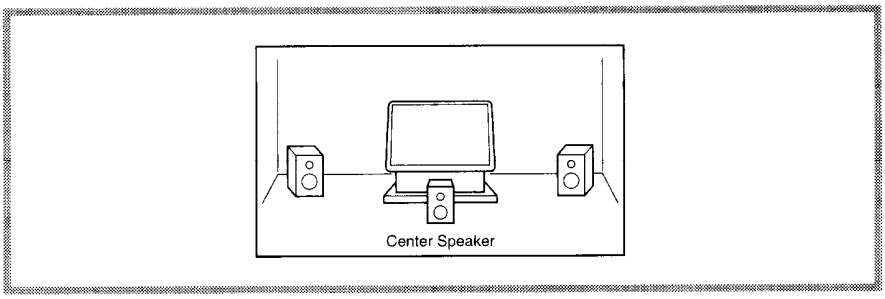
Since the TX-SV434 is equipped with a front amplifier, center amplifier and a rear (surround) amplifier, Dolby Pro Logic Surround effects can all be produced. When you using video cassette tapes or video discs that have the DOLBY STEREO or DOLBY SURROUND trade mark, you can enjoy the feeling of a movie theater in your own room. When reproducing these effects, placement of the rear (surround) speakers is important for optimum sound quality in your room.



Placing the speakers for Surround effects

Speaker placement plays an important role in the reproduction of sound using Surround. The manner in which the speakers are placed varies depending on the size of the room and the wall coverings used in the room. The following shows an example of a layout for standard speaker placement. Refer to the example for placing the speakers appropriately in order to experience the best Surround sound.

In principle, for Surround sound reproduction, two Front speakers and two Surround (Rear) speakers are required. Refer to the illustration on the left.



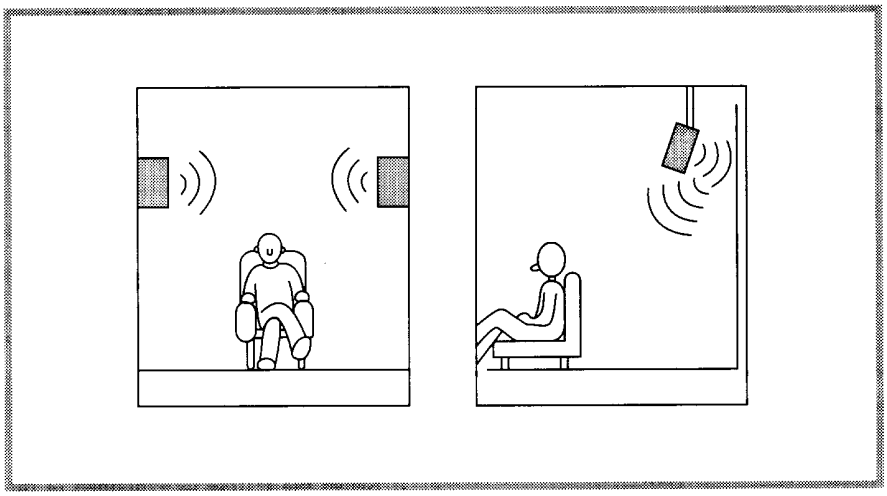
Placing the front speakers

If the Front left and right speakers are placed too far away from each other, sound spreads out too much and is dispersed resulting in diminished sound quality.

Placing the center speaker

To enjoy Surround sound, a Center speaker is required in addition to the four basic speakers.

If a screen with a projector is used, place the Center speaker under the screen. If a Monitor TV is used, it is recommended that the Center speaker be placed on top of or under the Monitor.

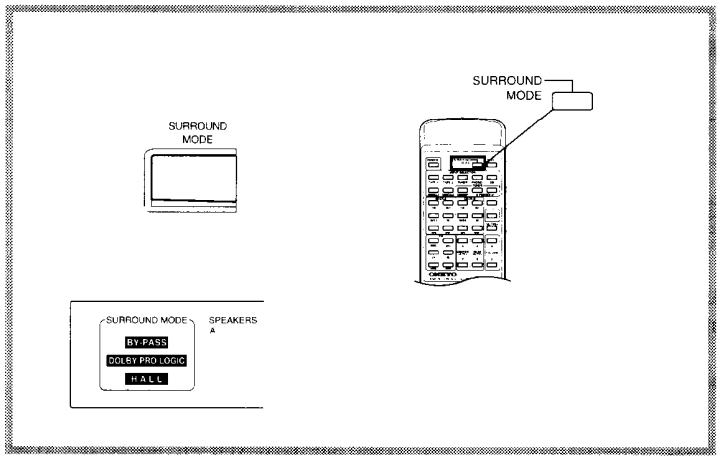


Placing the rear speakers

To bring out the feeling of shifting sound, the rear speakers should not be placed on the floor, but would be most effective placed above ear position. They can also be placed facing the ceiling or walls to reflect the sound.

Placing a subwoofer speaker

To enjoy powerful bass sounds, install a subwoofer with a built-in power amplifier. The placement of the Subwoofer does not affect the final quality of the sound image too much, therefore as its exact placement is not critical, you can install it more with the room layout in mind. To especially enjoy A/V Surround, a Subwoofer can bring out the best features of Dolby Pro Logic Surround.



Surround Mode

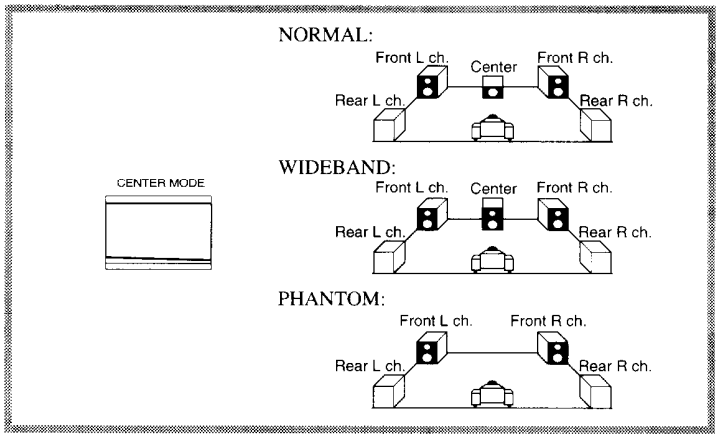
Select a mode by pressing the SURROUND MODE button. Make your choice of modes depending on the type of music you are listening to, the media used, and your personal preference.

DOLBY PRO LOGIC: By using video tape and laser discs with the Dolby Surround trade mark. You can decode four channel Surround sound.

HALL: Simulates the atmosphere of a concert hall. Intended for classical music.

BY-PASS: This mode is used when you do not wish to use the Surround mode. All input sound is output from the front speakers directly.

- The selected surround mode (Dolby Pro Logic, Hall or By-pass) is automatically stored along with the selected source. When the same source is subsequently selected, the stored surround mode will be automatically recalled.



Center Mode

Because the Center speaker plays such an important part in Dolby Pro Logic surround, three different modes are available for it, depending on its size.

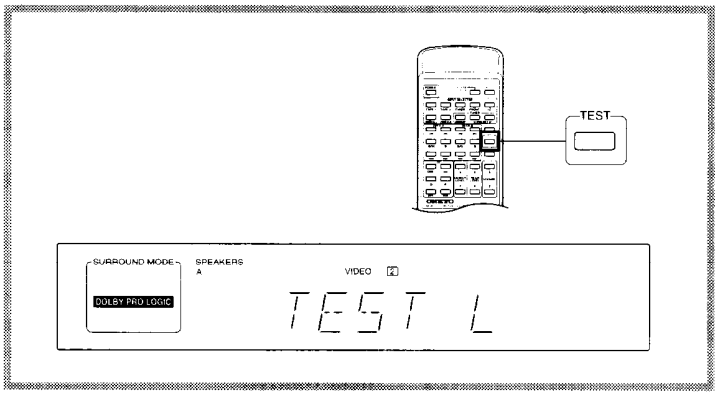
Select a mode by pressing the CENTER MODE button.

NORMAL: Use this setting when using a Center speaker smaller than the Front left and right speakers.

WIDEBAND: Use this setting when using a Center speaker similar to the Front left and right speakers in size and power.

PHANTOM: Use this setting when a Center speaker is not present.

- When you press the CENTER MODE button, the name of each mode will be shown on the display for 3 seconds in turn.



Test Tone

Use the test tone to adjust the volume level of each of the speakers before enjoying Dolby Pro Logic Surround.

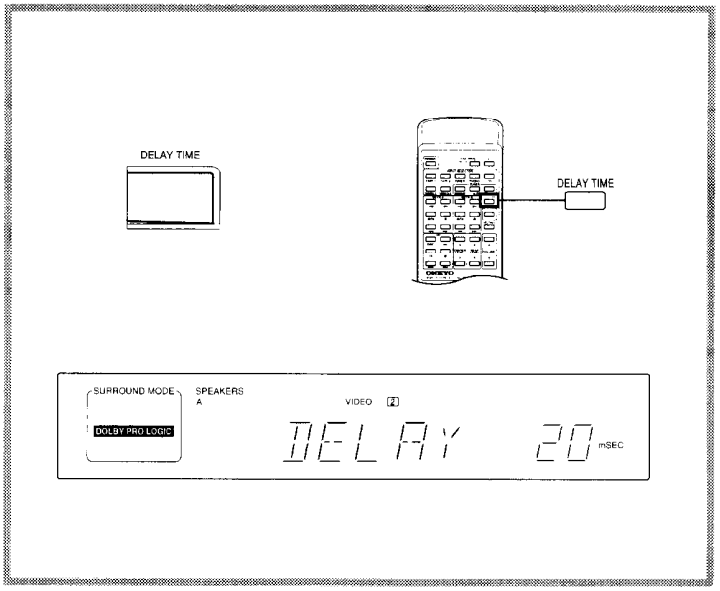
The test tone (pink noise) is produced by each speaker in turn so you can match the volume levels of the Front, Center and Rear speakers. The test tone cycling sequence depends on the center mode settings, as follows.

If CENTER MODE is NORMAL or WIDEBAND:

→Front Left →Center →Front Right →Rear →

If CENTER MODE is PHANTOM:

→Front Left →Front Left+Right →Front Right →Rear →

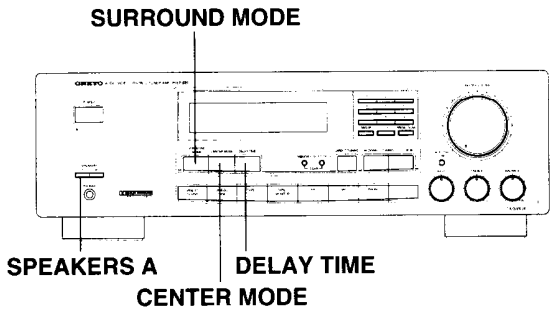


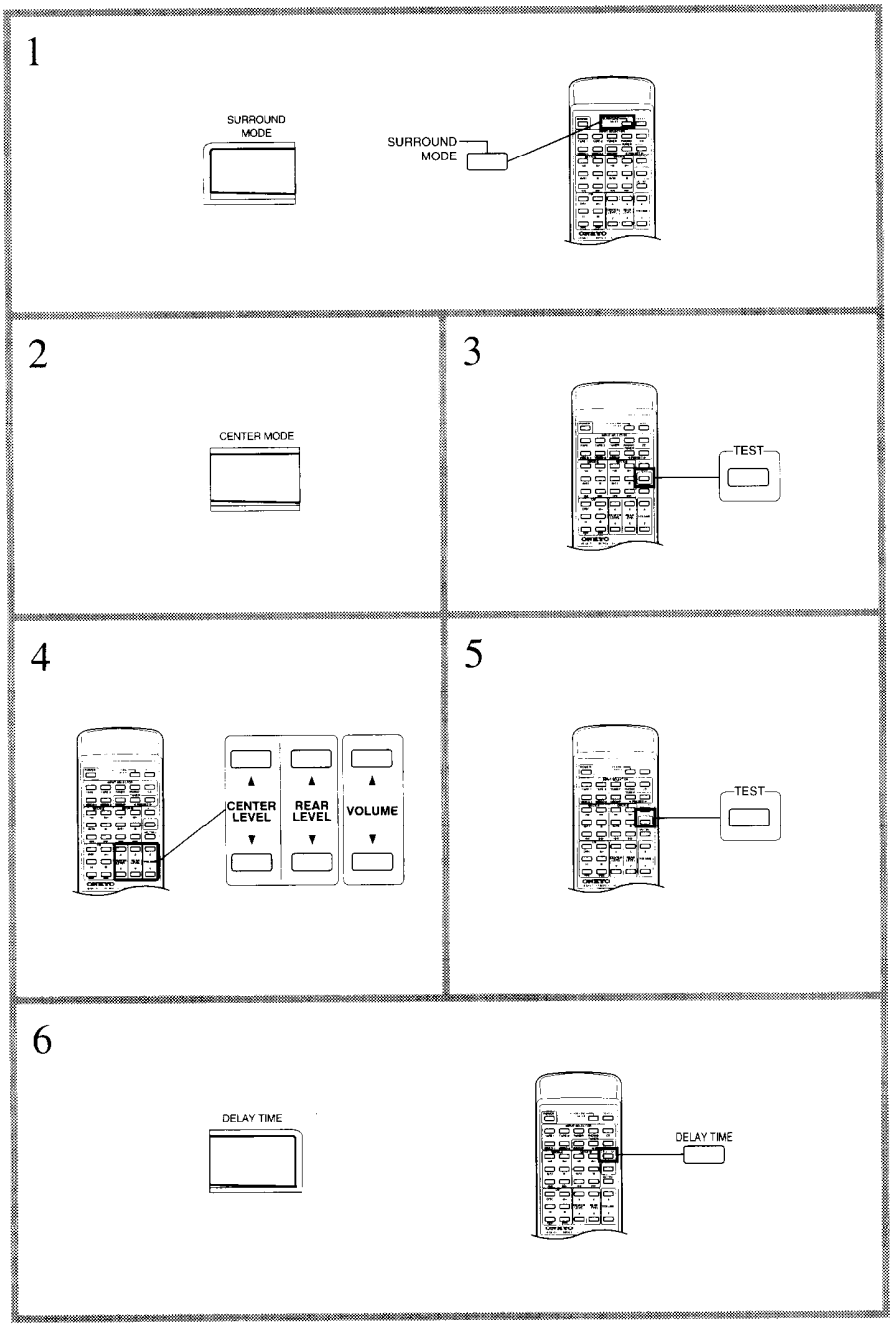
Delay Time

You can change the delay time for the sound from the rear (surround) speakers.

Pressing the DELAY TIME button changes the delay time every 5 msec (millisecond) during a period of 15 to 30 msec in Dolby Pro Logic and every 5 msec during a period of 5 to 30 msec in Hall. Dolby Surround delay time is specified at 20 msec. It is recommended that initial Dolby Surround delay time be set at 20 msec, and adjustment to either 15 or 30 possible via the control. By adjusting the delay time, and carefully adjusting Master Volume Level, Center Volume Level and Rear Volume Level, the apparent acoustic size of your listening room can be enlarged or deduced. Adjustable delay time allows you to tailor the acoustic size of your listening environment to match the sonic characteristic spaces, such as concert halls, cathedrals, etc. Use a shorter delay to simulate the size of a small club or cabaret. Respective delay time can be memorized for each surround mode. This operation can also be performed using the delay time button of the remote control.

- When you press the DELAY TIME button, DELAY and the delay time will be shown for 3 seconds on the display.



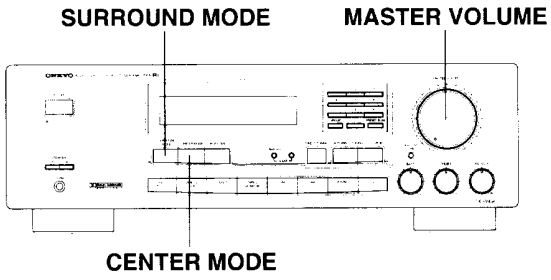


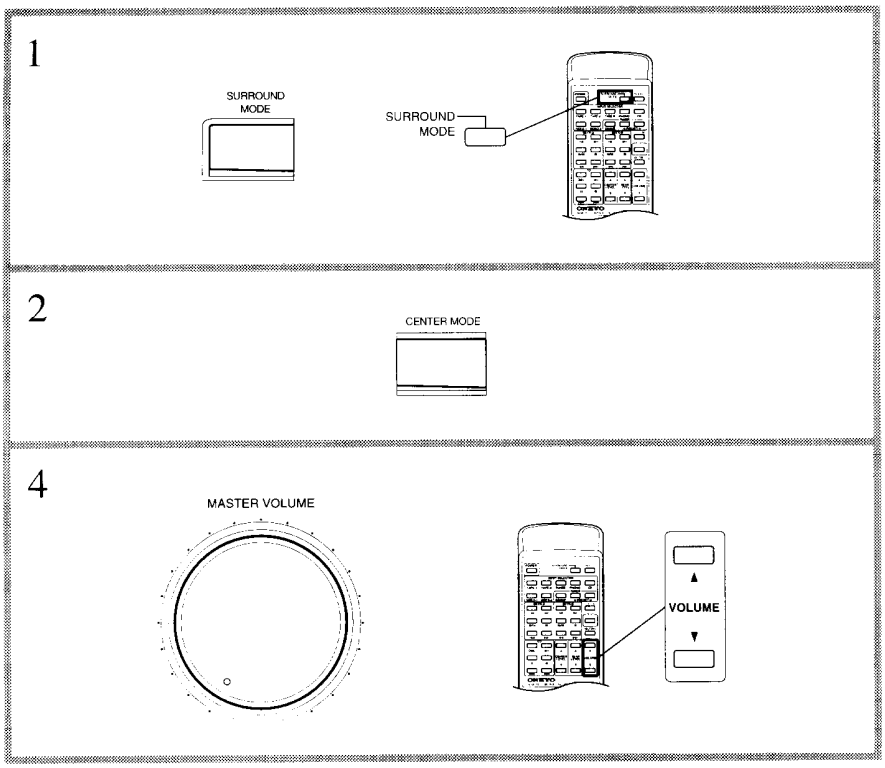
If there are differences in the volume levels of the speakers when enjoying Dolby Pro Logic Surround, you will not be able to get the best effect. You should use the test tone to adjust all the speakers to the same volume level.

Before operating: Be sure to turn on SPEAKERS A and turn off SPEAKERS B when enjoying Dolby Pro Logic Surround.

Adjusting the speaker volume

1. **Select a source encoded with Dolby Surround and use the SURROUND MODE button to select DOLBY PRO LOGIC mode.**
2. **Use the CENTER MODE button to select center mode.**
   When the button is pressed, the mode will change as shown below.
   ┌→NORMAL →WIDEBAND →PHANTOM┐
   └──────────────────────────┘
   (Refer to the page 21 for details of these modes.)
3. **Press the TEST button on the remote control.**
   (Refer to the Test Tone on the page 21 for details.)
4. **From your listening position, adjust the relative volume level of the test tone from the different speakers, on the remote control.**
   Adjust the volume levels of all of the speakers with the VOLUME ▲ (up) and ▼ (down) buttons.
   Adjust the volume levels of the Center speakers with the CENTER LEVEL ▲ (up) and ▼ (down) buttons.
   Adjust the volume levels of the Rear speakers with the REAR LEVEL ▲ (up) and ▼ (down) buttons.
5. **Press the TEST button again and stop the pink noise.**
6. **Use the DELAY TIME button to set the delay time.**
   (Refer to the page 21 for details.)



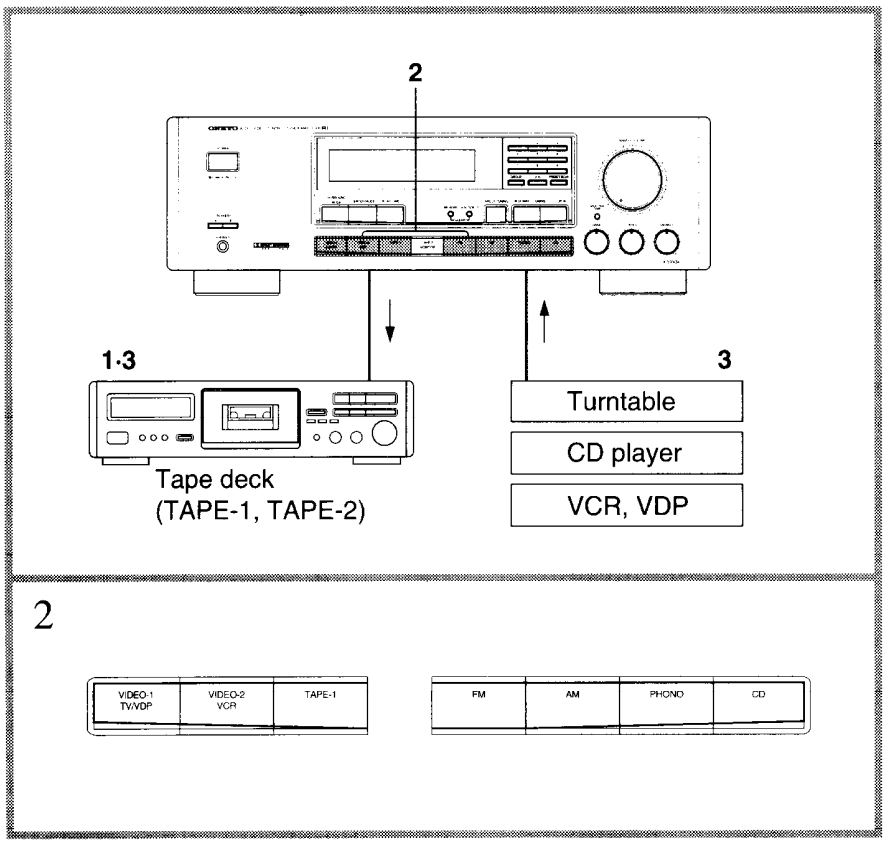


Enjoying Dolby Pro Logic Surround

1. **Use the SURROUND MODE button to select the surround mode.**
2. **Use the CENTER MODE button to select the center mode.**
3. **Play a source encoded with Dolby Surround.**
4. **Adjust the MASTER VOLUME control knob.**

- Treble, Bass, Selective Tone and Balance controls are effective only for the Front left and right speakers. The best effect from Dolby Pro Logic Surround can be obtained when equal settings are used for the sound from the L/R front speakers and the sound from the center speaker for the middle and treble ranges.

Recording a source



Recording an audio source

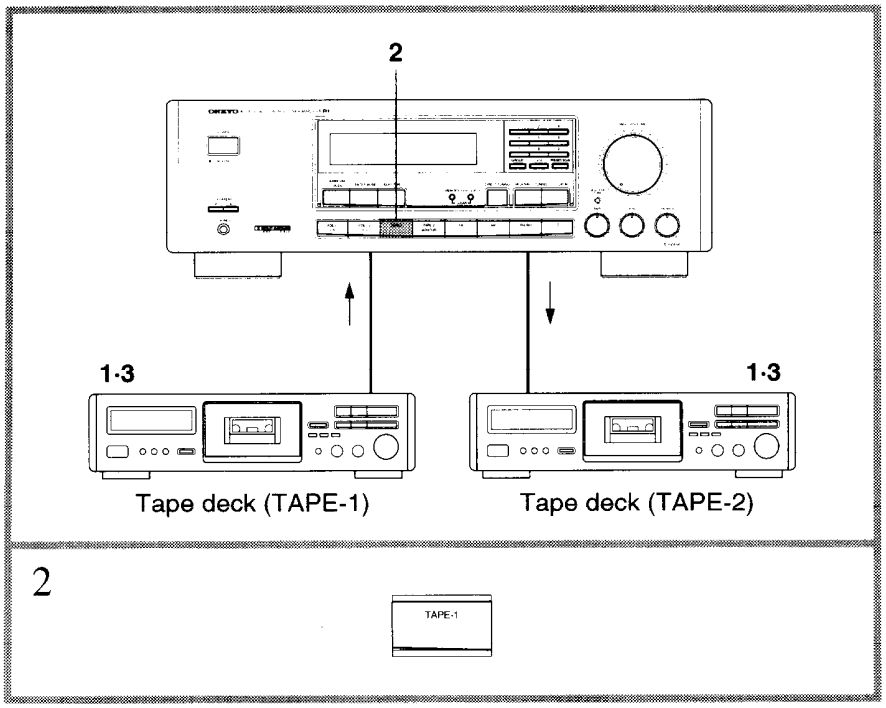
Please read the instruction manuals concerning the operation of each unit.

1. **Insert a blank tape into the tape deck.**
2. **Press the button of input selector for the source from which you want to record.**

- When VIDEO-1/TV/VDP or VIDEO-2/VCR is selected, it will (naturally) only record the audio.
- When FM or AM is selected, set the tuner to the station you want to record from.
- When TAPE-1 is selected, it will record to the TAPE-2 REC jacks.
- When either VIDEO-1/TV/VDP, VIDEO-2/VCR, FM, AM, PHONO or CD is selected, you are able to record to both the TAPE-1 and TAPE-2 REC jacks.

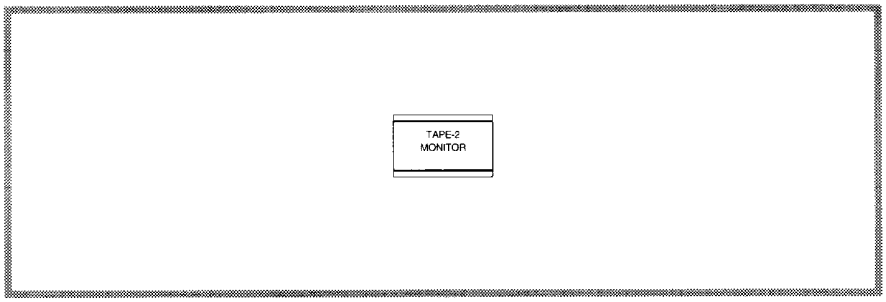
3. **Put the tape deck in the recording mode. Begin playing the source.**

Set the proper recording level using the controls on the tape deck used for recording. Also, during recording and dubbing operations, if any controls (bass, treble, etc.) on this unit are changed during recording and dubbing operations, the tone effects will not change.



Tape-to-tape dubbing

1. **Load the original tape in deck 1 and the blank tape in deck 2.**
2. **Press the TAPE-1 button.**
3. **Put tape deck 1 in the playback mode and tape deck 2 in recording mode.**

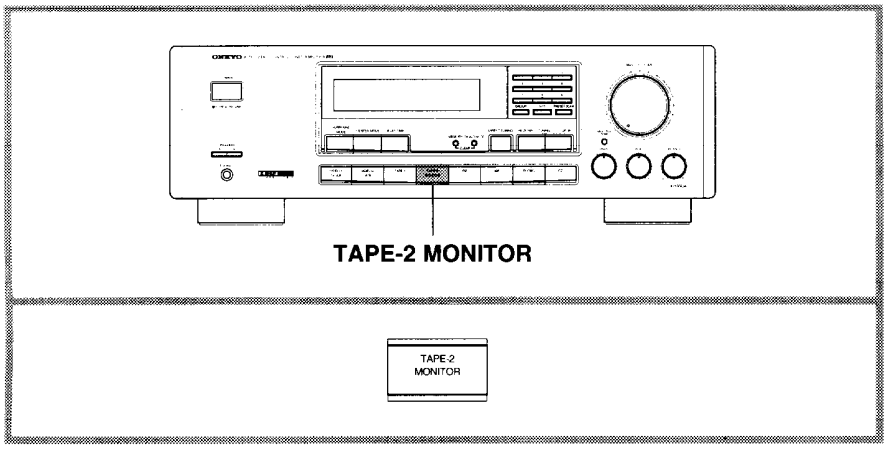


Monitoring

The source signal can be monitored through the speakers or headphones, when TAPE-2 MONITOR is turned off.

If tape deck 2 has three heads, the signal just recorded can be monitored (when the TAPE-2 MONITOR is turned on).

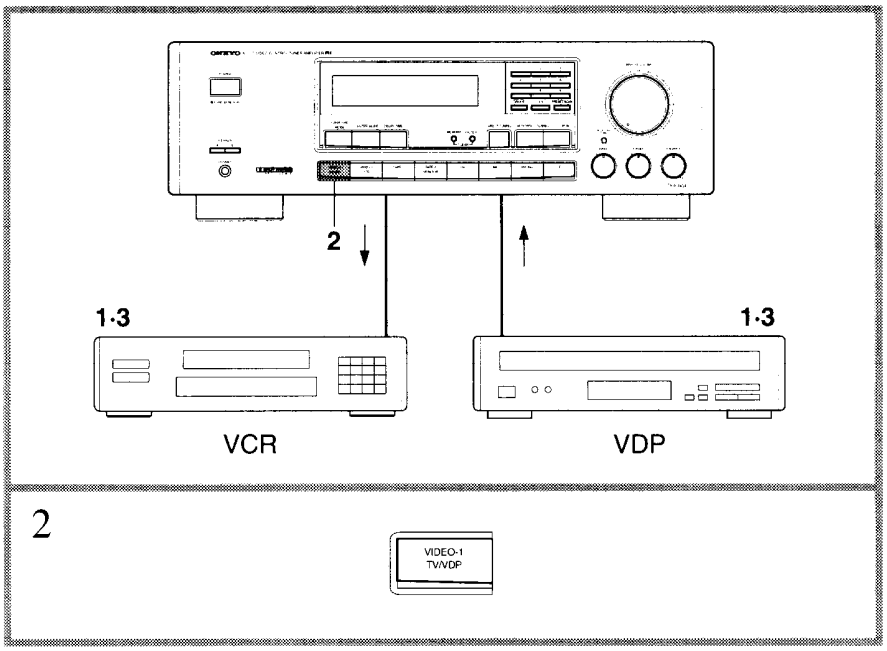
Refer to the tape deck instruction manual for more details.



Using a graphic equalizer

Connect the graphic equalizer to the TAPE-2 jacks on the rear panel.
If a second tape deck is used, connect it to the tape jacks on the graphic equalizer. Also see "Connecting a tape deck" on page 7 when making connections.

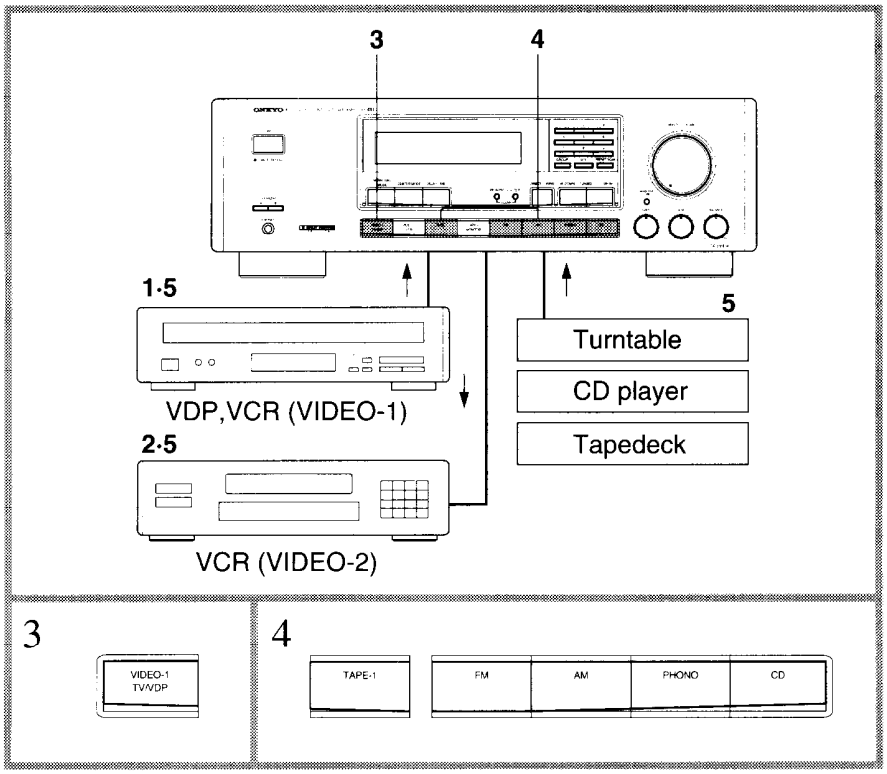
Press the TAPE-2 MONITOR button.
Follow the graphic equalizer operating instructions.
To record an equalized signal, use tape deck 2 (connected to the equalizer) for recording.



Video disc player (or video camcorder) to VCR recording

Video disc programs can be recorded onto a VCR (VIDEO-2).

1. **Load a disc in the video disc player, and a blank tape in the VCR (VIDEO-2).**
2. **Press the VIDEO-1/TV/VDP button.**
3. **Begin playback on the video disc player and recording on the VCR.**



Adding new sound to a video tape during video editing

During video tape editing, you can add the desired sound on the recording VCR from various audio program sources.

1. **Insert the LD or tape that you want to record into the VDP or VCR connected to VIDEO-1.**
2. **Insert a blank video tape in the VCR connected to VIDEO-2.**
3. **Press the VIDEO-1/TV/VDP button.**
4. **Select the audio program source (TAPE-1, FM, AM, PHONO, CD).**
5. **Begin playback of the video connected to the VIDEO-1 and also start the sound source, then start recording on the VIDEO-2 VCR.**

Refer to the video disc player, video camcorder or VCR instruction manuals for additional information.

Troubleshooting guide

If a problem occurs while you are using the remote control, first operate the unit using the front panel controls to confirm that it is not due to a malfunction (or worn out batteries) of the remote control.

Trouble	Cause	Remedy
No power.	• Power cord is disconnected. • There is external noise in the computer circuits of this unit. • AC fuse blown.	• Connect power cord. • Turn the power button off and then on again of remove the AC plug from the outlet and then plug it again. • Contact your Onkyo Service Center.
Power on but no sound.	• TAPE-2 MONITOR button is on. • MUTING button is on. • Bad connections. • Amplifier protection circuitry has been activated. ('PROTECT' will be displayed.)	• Switch to off. • Switch to off by the remote control. • Check connections, speaker leads, etc. • Contact your Onkyo Service Center.
No sound from the center speaker, or very minimal sound.	• Speaker cord is not corrected. • SURROUND MODE button is set to BY-PASS. • CENTER LEVEL is set to minimum. • CENTER MODE button is set to PHANTOM.	• Check the connection between the amplifier and the speaker. • Set the SURROUND MODE button to DOLBY PRO LOGIC or HALL. • Set the CENTER LEVEL to the appropriate volume. • Set CENTER MODE button to NORMAL or WIDEBAND.
Hum, low-frequency noise.	• Poor or no input ground. • Poor or no phono motor ground. • The placement of the audio connection cables on the rear panel is incorrect.	• Check outer conductor of input plugs. • Check for proper ground connection. • Adjust the placement of the cable to reduce hum.
Howling when the volume is turned up.	• Turntable and speakers are too close together.	• Move them farther apart.
Rough or scratchy sound. High range is not clear.	• Stylus of turntable pick-up is worn. • Turntable stylus tip is dirty. • Treble control too high.	• Replace. • Clean. • Turn treble control down.
AM stations cannot be received.	• AM loop antenna is not attached.	• Connect the included AM loop antenna to the AM antenna terminals.
Buzzing noise on AM (particularly conspicuous at night or with weak stations).	• Noise from electrical apparatus such as fluorescent lamp.	• Move the AM loop antenna to different position. • Set up an outdoor AM antenna.
High-pitched noise or buzzing noise on AM.	• Noise from TV set.	• Place the AM loop antenna as far as possible from the TV. • Move unit away from TV set.
Crackling noise on AM, FM.	• Noise caused by turning fluorescent lamp on and off. • Noise from automobile ignition.	• Move antenna as far as possible from the fluorescent lamp. • Install an FM outdoor antenna as for as possible from the road. • Change the position or direction of the outdoor antenna.
TUNED and STEREO indicators light but sound is distorted and stereo separation is bad.	• Station is too strong. • Multiple reflection of the radio waves because of tall buildings or mountains.	• Change to T-shaped antenna. • Use antenna which has better directivity and select a point where the distortion is least.
TUNED and STEREO indicators flicker and hiss is heard on FM.	• Station is too weak. • Stereo FM broadcasts cover only about half the distance of an ordinary broadcast.	• Install an outdoor FM antenna. • Change the position or direction of the outdoor antenna.
No Station is recalled when a PRESET SCAN button is pressed.	• The power cord has been unplugged for a long time. • On the European model, this is because the POWER button has been set to off for a long time.	• The memory contents are lost. Store all stations again.
Front panel controls function but remote control does not.	• No batteries in remote control. • Batteries have worn out.	• Insert batteries. • Replace batteries.

• Also refer to the respective instruction manuals of the video disc player, video cassette recorder, TV monitor, etc., being used.

Specifications

AMPLIFIER SECTION

Power Output
- Stereo mode
  - Front L/R channels: 65 watts per channel, min. RMS at 8 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.
  - Continuous Power output: 2 × 70 watts at 8 ohms, 1 kHz (DIN)
- Surround mode
  - Front L/R and Center channels: 55 watts per channel, min. RMS at 8 ohms, with no more than 0.08% total harmonic distortion at 1 kHz
  - Rear channels (Rear only driven): 20 watts per channel, min. RMS at 8 ohms, with no more than 0.3% total harmonic distortion at 1 kHz

Total Harmonic Distortion: 0.08% at rated power (Front)
IM Distortion: 0.08% at rated power (Front)
Damping Factor: 60 at 8 ohms (Front)
Sensitivity and Impedance
- Phono: 2.5 mV/50 kohms
- CD/Tape Play: 150 mV/50 kohms
- Tape Rec: 150 mV/2.2 kohms
- Pre out: 1 V/2.2 kohms

Phono Overload: 120 mV RMS at 1 kHz, 0.5% T.H.D.
Frequency Response: 20 Hz to 30 kHz, ±1 dB
RIAA Deviation: 20 Hz to 20 kHz, ±0.8 dB
Tone Control
- Bass: ±10 dB at 100 Hz
- Treble: ±10 dB at 10 kHz

Signal-to-Noise Ratio
- Phono: 80 dB (IHF A, 5 mV input)
- CD/Tape: 100 dB (IHF A)

VIDEO SECTION

Signal sensitivity and impedance: 1 Vp-p, 75 ohms (VDP/VCR input, output)

TUNER SECTION

FM

Tuning Range: 87.5 — 108.0 MHz
Usable Sensitivity
- Mono: 11.2 dBf, 1.0 µV (75 ohms)
- Stereo: 17.2 dBf, 2.0 µV (75 ohms)

50 dB Quieting Sensitivity
- Mono: 18.2 dBf, 2.2 µV (75 ohms)
- Stereo: 38.2 dBf, 22 µV (75 ohms)

Capture Ratio: 1.5 dB
Image Rejection Ratio
- U.S.A. & Canadian models: 40 dB
- Other area models: 85 dB

IF Rejection Ratio: 90 dB
Signal-to-Noise Ratio
- Mono: 73 dB
- Stereo: 67 dB

Alternate Channel Attenuation: 55 dB
Selectivity: 50 dB (DIN)
AM Suppression Ratio: 50 dB
Total Harmonic Distortion
- Mono: 0.15%
- Stereo: 0.25%

Frequency Response: 30 Hz — 15 kHz, ±1.5 dB
Stereo Separation: 45 dB at 1 kHz, 30 dB at 100 Hz — 10 kHz

AM

Tuning Range
- U.S.A. & Canadian models: 530—1,710 kHz (10 kHz steps)
- European & Australian models: 522—1,611 kHz (9 kHz steps)
- Worldwide models: 531—1,602 kHz (9 kHz steps), 530—1,710 kHz (10 kHz steps)

Usable Sensitivity: 30 µV
Image Rejection Ratio: 40 dB
IF Rejection Ratio: 40 dB
Signal-to-Noise Ratio: 40 dB
Total Harmonic Distortion: 0.7%

GENERAL

Power Supply
- U.S.A. & Canadian models: AC 120 V, 60 Hz
- European & Australian models: AC 230 V, 50 Hz
- Worldwide models: AC 220-230 V and 120 V switchable, 50/60 Hz

Power Consumption
- U.S.A. & Canadian models: 2.8 A (325 W)
- Other area models: 240 W

Dimensions (W × H × D): 455 × 150 × 322 mm, 17-15/16" × 5-7/8" × 12-11/16"
Weight: 9.6 kg, 21.2 lbs.

REMOTE CONTROL RC-295S

Transmitter: Infrared
Signal range: Approx. 5 meters, 16 ft.
Power supply: Two "AA" batteries (1.5 V × 2)
Dimensions (W × H × D): 65 × 18 × 194 mm, 2-9/16" × 11/16" × 7-5/8"
Weight: 110 grams, 3.9 oz. (including batteries)

Specifications and features are subject to change without notice.